

TRANSPORTATION

How To Get There From Here

GOAL

Provide an integrated, multi-modal transportation system that is safe, economical, ecologically sound, and aesthetically pleasing, serving a diverse population including the physically challenged.

BACKGROUND

The Blacksburg transportation system is comprised of a variety of elements including interstate highways, a local road system, alleys, mass transit, sidewalks, bike lanes, and air transportation. In addition, there are amenities supporting the transportation network such as parking facilities and off-road trails, which are discussed extensively in the Greenways chapter of the plan. Blacksburg's unique characteristics are integral to the town's multi-faceted approach to transportation planning. The town's citizens and development patterns promote the use of alternatives to the personal automobile. The transportation system is designed to balance safety, service, cost, community character, and convenience. Each element of the transportation system is complementary to the others and serves the community as a network.

INTERSTATE SYSTEM

Description

Interstate 81 and Interstate 77

Blacksburg is in close proximity to Interstate 81 (I-81), which serves as the major north-south transportation corridor along the Appalachian mountain range from Tennessee to New York. This interstate serves as a primary commuting corridor between Blacksburg and Roanoke and currently carries approximately 55,000 vehicles per day. Interstate 77 (I-77) serves as another major transportation corridor primarily used between Pennsylvania and South Carolina. This interstate is accessible to the south via I-81 (approximately 40 miles from town) or northwest via



Figure T-1, Interstate 81

U.S. Route 460 (approximately 60 miles from town). Interstate 77 carries approximately 36,500 vehicles per day and serves as a significant truck cargo route. The proximity of the town to these two interstates provides for the efficient delivery of supplies to local industries and makes Blacksburg more accessible.

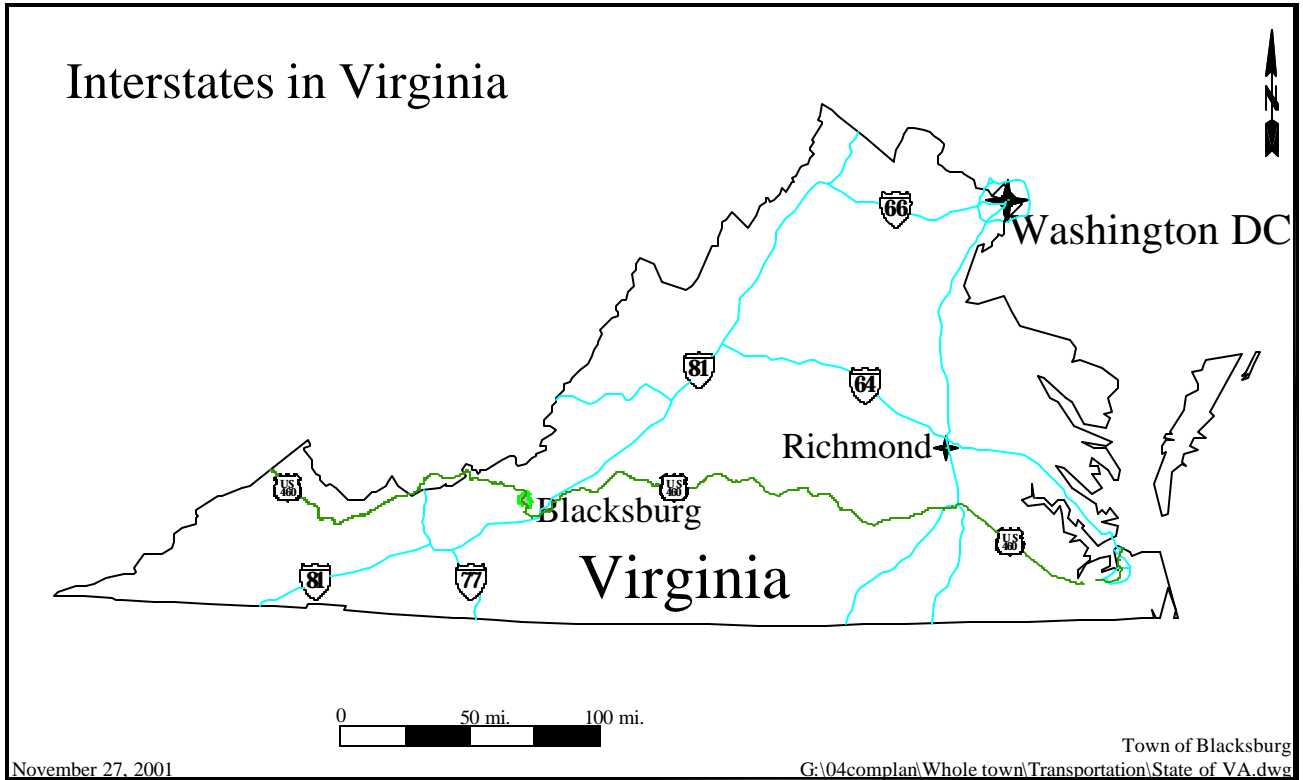


Figure T-2, Interstates in Virginia

United States Route 460

United States Route 460 (U.S. Route 460) connects the Town of Blacksburg to I-81 and the Town of Christiansburg along a seven-mile corridor through a major commercial center. This section of Route 460 carries approximately 52,000 vehicles per day and is subject to significant congestion during morning and evening commuting peaks. The highway also serves as a connection from Blacksburg to Interstate 77 in West Virginia. Route 460 Business is the town's Main Street, running north-south directly through the downtown, and carries approximately 22,000 vehicles per day. A limited-access bypass guides through-traffic past the commercial center of Town.

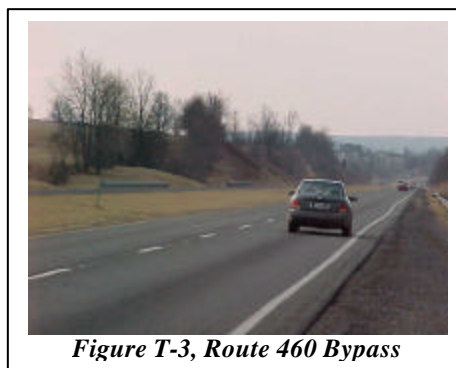


Figure T-3, Route 460 Bypass

Rail Access

No rail access exists within the town although a Norfolk Southern railway hub for freight service is located in Roanoke, approximately 40 miles to the northeast. No passenger rail service is provided in or near the town with the closest terminal for passenger service located in Lynchburg, Virginia, approximately 80 miles from Town.

Interstate Bus Service

No interstate bus service is available within the town, but a Greyhound depot is located in Christiansburg, less than 10 miles from Town. A Blacksburg Transit route, the Two Town Trolley, provides service to Christiansburg although not directly to the depot.



Figure T-4, Two Town Trolley

Opportunities

- ◆ Interstate 81 and Interstate 77 provide access near the town for movement of goods and automobile traffic along significant highway corridors serving the eastern region of the country.
- ◆ The current connection between I-81 and Town is being improved by creating a bypass around the commercial center located along Business Route 460, thus alleviating the congestion within this major commercial area, and significantly reducing the travel time between the town and interstate.
- ◆ The Smart Road to Interstate 81 and the Blacksburg/Christiansburg Bypass road construction projects will improve access to the town and provide an opportunity to create a scenic entrance.
- ◆ The Smart Road to Interstate 81 will provide for testing of the intelligent transportation systems technology associated with Virginia Tech.
- ◆ Congress recently passed legislation supporting passenger rail service through Southwest Virginia with nearby stops in the Town of Christiansburg and City of Radford.

Challenges

- ◆ No direct rail service, cargo or passenger, or regional bus service is available to the town.
- ◆ Blacksburg's character, which is directly associated with the scenic setting along Route 460 Bypass through the town, is created through the preservation of significant open space and will be negatively effected by the potential interstate highway (I-73), or other high speed travel corridors, passing through the town.
- ◆ Funding has not been allocated for completion of the Direct Link portion of the Smart Road to its planned interchange with Interstate 81.

What is Changing

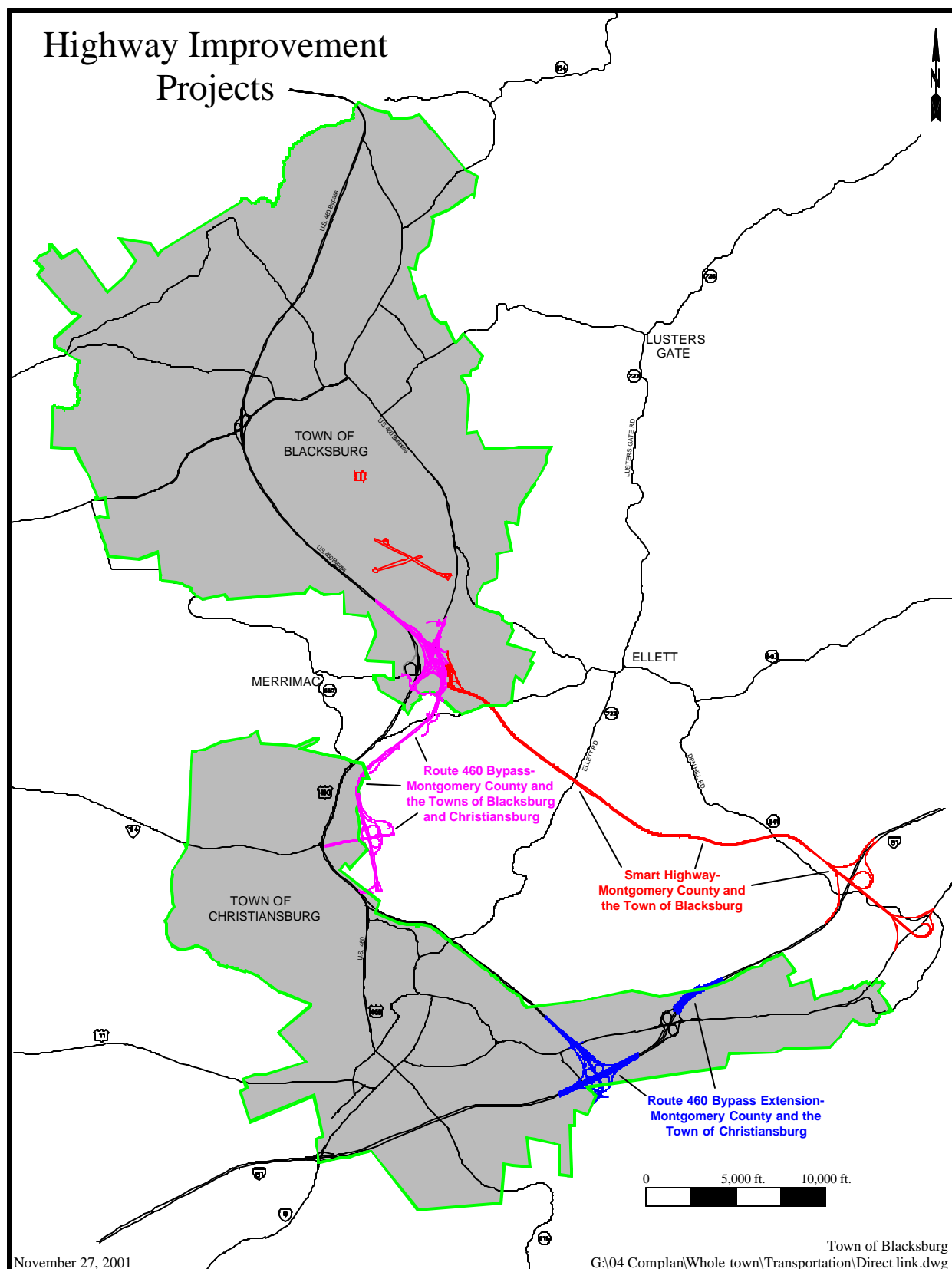
Route 460 Blacksburg Interchange / Smart Road

Construction is underway on the Route 460 Blacksburg Interchange, located in the southern portion of Town where Route 460 and South Main Street intersect, and is scheduled for completion by 2002. This interchange is one component of the Virginia Department of Transportation (VDOT) project linking the Blacksburg 460 Bypass to the Christiansburg 460 Bypass. This project will enable through-traffic to avoid delays encountered along the commercial strip of Business 460 between the two towns. Additionally, a two-mile test Smart Road facility has been constructed adjacent to the Blacksburg Industrial Park, in close proximity to 3A. On July 8, 1997, the Smart Road construction was underway. Phase One of the Smart Road construction includes a 1.7-mile two-lane test bed.¹ Phase Two of the project includes a 2,000-foot bridge and 200 yards of roadway with a turn-around loop to allow non-stop test driving. Completion of the first two phases occurred in 2000-01 and the final phase is expected to be completed by 2008. When finished, the Smart Road will become a direct access to I-81 from the south end of Town.



Figure T-5, Route 460 Blacksburg Interchange Construction

¹ <http://www.vdot.state.va.us/proj/smartx.html>



Interstate 73

In accordance with the Intermodal Surface Transportation Efficiency Act of 1991, I-73 is the proposed north-south commerce route from Detroit, Michigan to Charleston, South Carolina.² The Virginia portion of this four-lane divided interstate is slated to follow Route 460 through Giles and Montgomery Counties, the Smart Road, I-81, I-581, and then south, roughly following Route 220 to the state line. At this time, however, the only portion of the proposed I-73 in Virginia under study is from the Roanoke Valley to the Virginia / North Carolina state line.

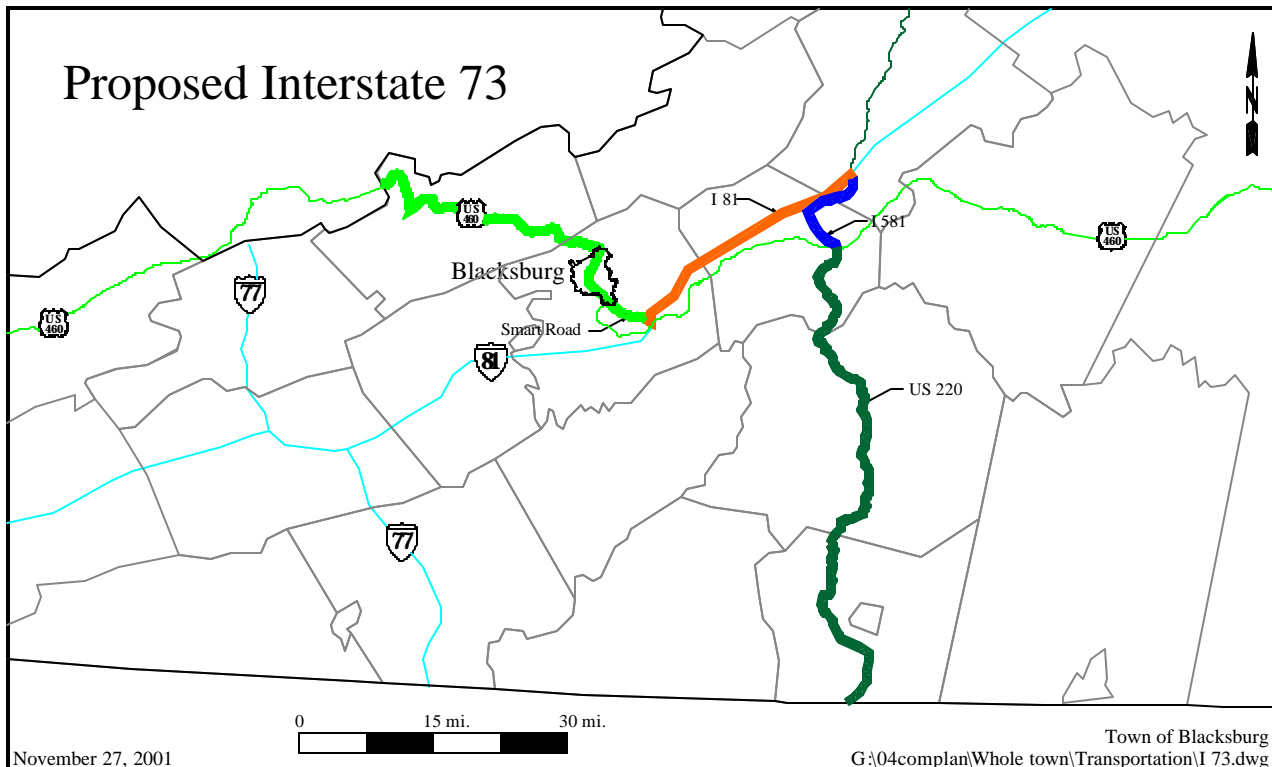


Figure T-7, Proposed Interstate 73 Corridor

Passenger Rail Service

The United States Congress has recently approved legislation that directs Amtrak to partner with the Commonwealth of Virginia and freight railroads to construct the operating agreement necessary to launch passenger rail service from Bristol to Richmond and Washington, D.C.³ The 2000 Virginia General Assembly allocated \$9.3 million for the rail project which, with stops in Abingdon, Marion, Wytheville, Pulaski, Radford, and Christiansburg, could increase heritage tourism in the area and be helpful in decreasing traffic congestion on Interstate 81.⁴

² <http://www.pbid.net/I73/>

³ <http://www.house.gov/transportation/railjuris.htm>

⁴ <http://leg1.state.va.us/001/idx/ixhtml183.htm>

GENERAL POLICIES

- ❑ Promote and participate in regional planning efforts with VDOT, Christiansburg, and Montgomery County.
- ❑ Minimize the impact of interstate construction on the character and scenic nature of the town.
- ❑ Plan regionally for transportation system linkages.
- ❑ Support the improvement of key highway corridors in the Roanoke and New River Valleys with particular sensitivity to safety, quality of life, and natural beauty.
- ❑ Make the Blacksburg area a showcase for intelligent vehicle highway systems technology.
- ❑ Support high-speed passenger rail service between the region, Washington, D.C. and Richmond.
- ❑ Encourage development of an intermodal hub (air, highway, and rail) and distribution terminal in the New River/ Roanoke valley region.

ACTION STRATEGIES

in general

- Encourage that any infrastructure be constructed in an environmentally sensitive manner which does not change the character of the area it is passing through and be sensitive to views of ridge lines and scenic corridors.
- Encourage transportation alternatives to trucks as the primary freight carriers and to the private automobile as the primary passenger carrier.

within 5 years

- Provide local bus service from Blacksburg to the regional Greyhound depot in Christiansburg.
- Support and promote the development of a limited access Blacksburg/I-81 Connector, following the path from southern Blacksburg to a point near the intersection of Route 641 and I-81.

- Support and advocate the construction of the Direct Link to I-81 as a Smart Road, showcasing technological development.
- Support a limited access connection from southern Blacksburg to the Christiansburg 460 Bypass running parallel to Route 460 to the east, with connections to Route 114 and I-81.
- Support the establishment of a regional transportation district to coordinate transportation priorities within the New River and Roanoke Valleys.
- Participate in the review of transportation projects both within the town and the larger region for sensitivity to safety, quality of life, and natural beauty, and forward Town Council resolutions as appropriate to achieve these goals.

within 25 years

- Ensure that the construction of I-73 is in accordance with regional comprehensive plans, and that negative impacts, such as loss of open space, are minimized.

beyond 25 years

- Promote the construction of a monorail, or other high-speed mass transit mode, connecting Blacksburg and Virginia Tech to the Hotel Roanoke and the Roanoke Regional Airport.
- Encourage the development of a cross continent transportation link which may be high speed rail, highway, or other fast, future technological system for the movement of goods and people within the region and outside the corporate limits of Blacksburg.

TOWN ROAD SYSTEM

Description

Road Classification and Speed Limit

The town's internal street network consists of approximately 157 lane miles of local, collector, and arterial streets. All streets within the Town of Blacksburg are assigned a speed limit of 25 miles per hour unless otherwise posted.



Figure T-8, Road with Speed Limit

Local Local streets provide direct access to adjacent land and make up approximately 70 percent of the total street mileage, while carrying a relatively small proportion of the vehicle miles traveled. These streets serve primarily residential and neighborhood traffic. Speed limits on these streets in the town are 25 miles per hour, and may be posted as low as 15 miles per hour in areas with high pedestrian activity or hazardous terrain.

Collector Collector roads connect the arterial roads to the local street system, and thus carry a higher level of traffic than local streets. These roads comprise approximately 8 percent of the town's total street mileage. Collector roads may provide direct access to adjacent land. However, they primarily route traffic from neighborhoods to major employment and commercial centers. Speed limits on these roads range from 25 to 35 miles per hour. There are 20.29 miles of collector roads in Town.



Figure T-9, Airport Road

Arterial Arterial roads are major routes for traffic movement within an urban area, serving traffic movement to and from interstates. These roads make up approximately 24 percent of the town's total street mileage. Arterial roads connect the principal traffic generators within the urban area, as well as major rural routes. Speed limits on these roads range from 25 to 55 miles per hour in Town. There are 14.16 miles of arterial roads in Town.

VDOT Street Classifications⁵

Arterial Streets

Street	From	To	Miles	1993 Traffic (vpd)	1995 Traffic (vpd)	2001 Traffic (vpd)
Harding Avenue	East Town Limit	Owens St.	0.84	6,217	6,292	7,108
North Main Street*	College Ave.	Rt. 460 Bypass	3.27	21,587	23,444	21,701
Owens Street	Roanoke St.	Harding Ave.	0.10	N/A	5,119	6,143
Patrick Henry Drive	Harding Ave.	Tom's Creek Rd.	1.46	N/A	N/A	NYA
Prices Fork Road*	West Town Limit	North Main St.	3.03	29,689	40,516	30,543
Roanoke Street	South Main St.	Owens St.	0.42	5,716	6,945	7,468
South Main Street	Hightop Rd.	College Ave.	3.10	17,761	19,063	19,801
Tom's Creek Road	Rt. 460 Bypass	Prices Fork Rd.	0.95	10,994	11,580	14,808
University City Blvd.*	Prices Fork Rd.	Tom's Creek Rd.	1.11	11,615	12,852	9,159

Collector Streets

Street	From	To	Miles	1993 Traffic (vpd)	1995 Traffic (vpd)	2001 Traffic (vpd)
Airport Rd.	Country Club Dr.	South Main St.	0.88	1,830	2,001	2,159
Country Club Dr.	Airport Rd.	Palmer Dr.	0.43	3,327	3,315	4,831
Ellett Rd.	South Main St.	East Town Limit	0.84	5,128	5,726	NYA
Glade Rd.	West Town Limit	Prices Fork Rd.	2.42	3,858	5,171	5,642
Southgate Dr.	Rt. 460 Bypass	Spring Rd.	0.71	7,816	10,893	12,328
Mt. Tabor Rd.	East Town Limit	North Main St.	0.97	3,704	4,097	NYA

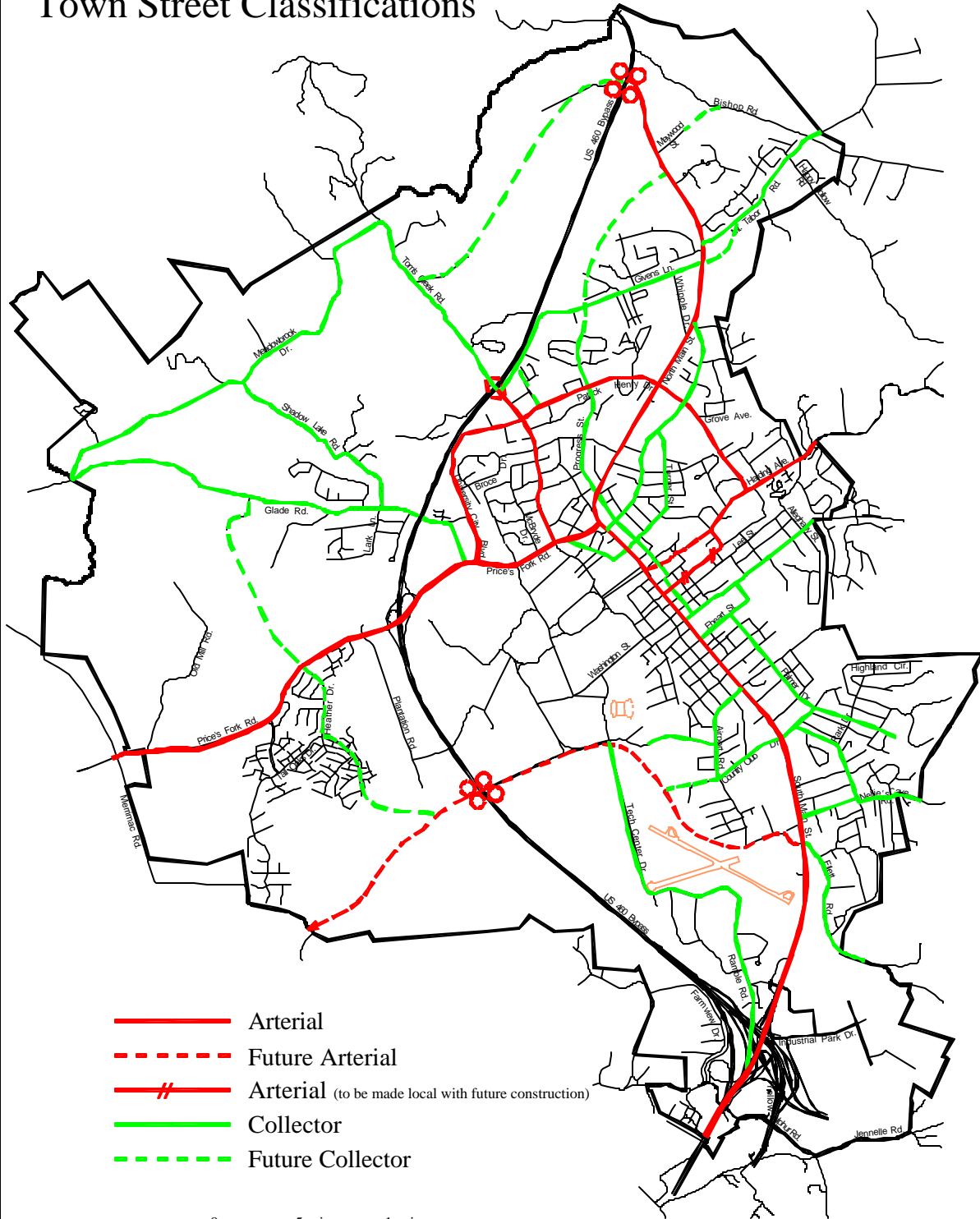
Figure T-10, VDOT Street Classification Listing

*counts may be taken at different locations

NYA: counts are Not Yet Available

⁵ Virginia Department of Transportation

Town Street Classifications



November 27, 2001

Town of Blacksburg
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Figure T-11, Town Street Classifications

Traffic Signals and Road Capacity

There are 22 traffic signals in Town, five of which contain pedestrian crossing phases. All arterial and collector roads within Town operate within capacity and with a general non-peak level of service of C or better. During the peak hours, congestion occurs in few locations and generally

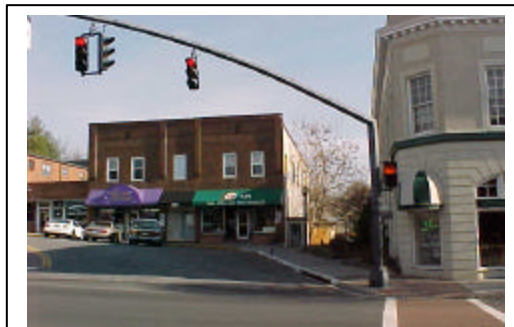


Figure T-12, Pedestrian Crossing Signal

is limited to a period of 15 minutes at which some roads and intersections operate at levels of service D or E. These locations, such as Ellett Road and the intersection of Tom's Creek Road, Stanger Street, and Prices Fork Road, are scheduled to be upgraded in VDOT's six-year plan in order to alleviate this congestion.

Process for Road Improvements

The Town of Blacksburg has three categories of road projects: urban road improvement projects, local road projects, and state maintained road projects. The town coordinates with VDOT in order to plan and construct new urban road projects. Only those projects located on collector and arterial roads, as classified by VDOT, are eligible for funding through their Urban Road Improvement Program. In this program, VDOT will pay for 98 percent of the total cost of the project, while the town pays two percent. These urban road projects are prioritized and put into VDOT's six-year plan. Each year, the town is allocated \$2.5 million per year and sets aside \$100,000 in its own Capital Improvements Program to cover its share of the cost. During this six-year timeframe, the town will have between two and three projects in various stages of planning, design, or construction.

Those local road projects that are not eligible for VDOT funding, such as the Clay Street extension, are paid for solely by the town. In order to receive funding for road projects on state maintained roads, such as the Route 460 Bypass, the town competes with the rest of the district for funding priority.

Traffic Committee

The Town Manager appoints a Traffic Committee each year to consider and make recommendations on issues relating to traffic safety and parking in Town. The committee consists of representatives from the Police, Public Works, Transit, and Planning and Engineering Departments, and two citizen representatives.

Complaints, concerns, and suggestions relating to traffic, parking, or pedestrian safety are forwarded to this committee monthly for recommendation to the Town Manager. Recommendations are generally implemented within a month.

Neighborhood Traffic Control Program

During Town-sponsored neighborhood meetings, the primary concern raised by residents is speeding, cut-through traffic, and red-light running within the town. The Town of Blacksburg supports a Neighborhood Traffic Control Program (NTCP) to improve the character and appropriate use of local streets in residential neighborhoods through the use of driver education, enforcement, signage, trimming, and physical roadway changes. The NTCP is one of the components of the Neighborhood Enhancement Program, and is supported by both the Police and Planning and Engineering Departments.

Interested neighbors may form a task force to work with the town's Transportation Planner to resolve speeding and cut-through traffic related issues within their neighborhood. As appropriate, traffic counts and speed studies are conducted to determine the nature and extent of the problem. Once a perceived traffic-related problem has been substantiated, the task force will decide which passive measures would be appropriate for use within the neighborhood, such as pavement marking, education, or enforcement measures. The traffic analyses are supplemented with additional police patrols and use of the speed trailer.

These passive measures are implemented by the town, and monitored by both the town and the neighborhood task force. If the passive measures are not effective as determined by the residents and by additional speed studies, physical roadway changes can be considered. These active measures may include roundabouts, chicanes, road closures, or other means. Physical roadway changes are evaluated by emergency service personnel for potential response constraints and are not implemented until a strong neighborhood consensus is developed. Over fifteen neighborhoods have participated in this program since its inception in 1993. In most cases, concerns have been addressed without pursuing physical changes to the roadway.

Opportunities

- Traffic congestion is minimal, located in few areas, and extremely short in duration.
- Roadway conditions are very good within Town, and are supported by regular maintenance and overlay schedules.
- Most of the town roads are lined with trees, and, where medians are provided, flowers throughout the growing season add charm and character.

Challenges

- There are very few collector or arterial roads in Town that provide east-west access, and those that exist are generally heavily used local residential streets.
- No street route exists that provides a convenient and direct parallel alternative to Main Street around downtown, which would improve emergency access and facilitate the expansion of festivals and events in the downtown area.
- No primary north-south alternative to Main Street exists along the eastern side of Town. Constraints include the significant disruption of existing residential neighborhoods and park properties as well as severe topographical conditions along the continental divide.
- Tree limbs and brush sometimes encroach into the street rights-of-way and limit visibility.
- Emergency access needs to be improved in some western portions of Town (e.g., Southgate West Extension, Heather Drive Extension, etc.).
- Some local roads are functioning as collector roads due to growth and cut-through traffic.
- Better enforcement of traffic laws could be effective in keeping the streets safe for children and pedestrians.
- Designing and funding a comprehensive transportation system that integrates multiple modes of transportation including roads, bicycle lanes, walkways and grade separated crossings at the most critical intersections with arterial or collector streets.

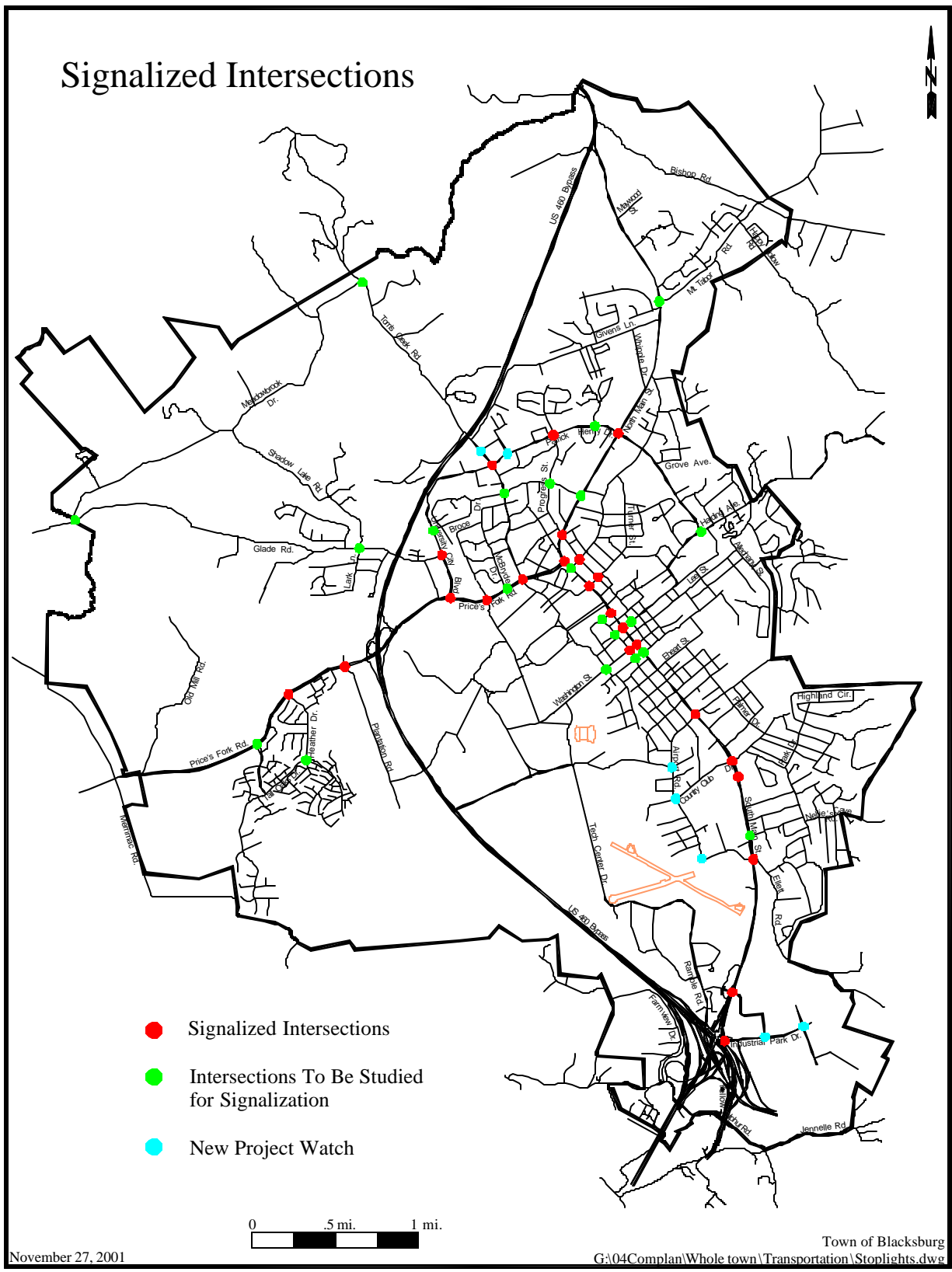


Figure T-13, Signalized Intersections

What is Changing

Until recently, there was no master plan designating current and future arterial and collector streets. As a result, further development within the town, as well as the adjacent areas in Montgomery County, has increased levels of traffic on streets that residents had considered as local streets. The town has recognized that the character of neighborhoods and the broader community could be compromised if road network improvements consider only facilitation of traffic flow, or if roads planned as local serve collector uses. Further, there is a recognition that if dead end streets proliferate at the expense of an integrated network, traffic constriction and congestion will result.

GENERAL POLICIES

- ❑ Develop the arterial and collector street system in accordance with the Town Street Classifications map.
- ❑ Provide collector and arterial roads in the town that can move large volumes of traffic from within and outside of the town, while minimizing the impact on residential neighborhoods and bikeways/walkways.
- ❑ Improve accessibility to high-density residential areas and activity centers such as the Virginia Tech campus, downtown, University Mall, Corporate Research Center, Blacksburg Industrial Park, and other areas.
- ❑ Create or transform collector and arterial roads into divided roadways with landscaped medians that limit driveway access, thus increasing safety and facilitating traffic flow.
- ❑ Serve residential neighborhoods with collector roads, and commercial areas with collector and arterial roads into which local roads connect, in order to retain the local nature of neighborhood roads.
- ❑ Provide for the interconnection of neighborhoods and parcels with local streets and with collector or arterial streets where planned or dictated by traffic volumes.
- ❑ Plan for new roads in the central portion of Town, which are consistent with the historical grid network and complete the street grid system.

- ❑ Plan all new roads and improvements with consideration of multi-modal use.
- ❑ Maintain the public road system in a cost-effective manner to extend roadway surface life, minimize traffic congestion, and allow for the safety of the public in all seasons and weather conditions.
- ❑ Provide street lighting appropriate to the use of the road and the character of the area.
- ❑ Reduce speeding and cut-through traffic in neighborhoods through the combined efforts of citizens, and the Police and Planning and Engineering Departments.

ACTION STRATEGIES

in general

- Support local road construction standards which incorporate traffic calming (speed reduction) principles, without deterring motorists from travelling through the heart of Town.
- Include bus, pedestrian, and bicycle provisions in all roadway projects.
- Require local streets in new subdivisions to connect to existing or planned collector streets where traffic projections exceed local street levels, and to connect to existing local streets to distribute traffic.
- Require every major subdivision and road project proposal to construct or provide right-of-way for the extension of existing or planned collector roads.
- Request all new VDOT Urban Road projects to include medians, bicycle lanes, sidewalks or trails, and grade separated crossings for primary intersections with bike/road/walkways.
- Improve or modify existing local roads to reduce speeding, commuter or cut through traffic, or other conflicts in street use and character.
- Review new road construction and development for consistency with the Town Street Classifications map.

- Resurface pavements as necessary to obtain maximum pavement life and a smooth surface that provides a high quality appearance and rideability.
- Resurface streets within two years of major utility work if frequent or extensive patching reduces rideability to a level below other Town streets.
- Plan for and provide, through the development process, extension of the established grid network in the central area of Town.
- Consider alternative techniques to road construction to mitigate traffic congestion, such as integrated traffic signal systems and remarking of lanes, expansion of transit service, and bike-walkway enhancements.
- Maintain storm drainage facilities associated with the street in order to assure that roadways are not flooded in storm events with a statistical frequency occurring more than once per 10 years, and to protect roadways from erosion and undermining.
- Provide regular tree trimming along rights-of-way to provide for sight distance, ensure overhead clearance for emergency and utility vehicles, and protect the public from falling branches or trees.
- Provide street lighting along all new or improved collector and arterial roads, and along local roads where requested by petition.
- Replace and rehabilitate bridges as necessary to maintain the safety of the road system and avoid limiting normal use by school buses and utility vehicles.

within 5 years

- Identify new funding sources for road project priorities that are not eligible for the Urban Road Improvement Program, such as roads with a local classification.
- Complete the Hubbard Street Extension as the town's top priority, along with the Clay Street Extension and Hightop Road (Bypass) improvement projects.
- Develop and implement a thorough traffic calming strategy for downtown, including high profile crosswalks, pedestrian promenades and pathways, alleyways, a roundabout, and legible attractive signage, to slow traffic and promote a pedestrian friendly environment in accordance with the Downtown Master Plan.

- Modify the Subdivision Ordinance to require streets in new subdivisions to be constructed according to projected traffic volumes.
- Promote offset work hours, telecommuting, and ride sharing to mitigate increases in traffic congestion.
- Complete construction of a full access interchange at Tom's Creek Road and the Route 460 Bypass, and improve North Main Street between Giles and Mount Tabor Roads.
- Improve intersections and synchronize traffic signals along South Main Street and Prices Fork Road in order to better facilitate traffic flow, improve safety, and reduce congestion.
- Implement video red light enforcement at intersections throughout Town that have been identified as having a high occurrence of red-light runners.

within 25 years

- Re-align Nellie's Cave Road into Marlinton Street to provide a safer, more efficient, higher capacity route to Main Street; and improve the intersection of Marlinton Street and South Main Street by installing a traffic signal, and re-engineering the slope at the end of the approach to the intersection on Marlinton Street.
- Complete construction of the Southgate Extension west of the Route 460 Bypass to the Merrimac area, providing a second access to the Hethwood subdivision and the Warm Hearth community.
- Widen Ellett Road to four lanes in order to accommodate peak hour traffic volumes.
- Work with Virginia Tech and large private employers to adopt flexible work hours, ridesharing, and telecommuting.
- Complete projects listed as *Funded* or *Priority Projects* in the town's Road Project Priority listing (*Figure T-14*).

beyond 25 years

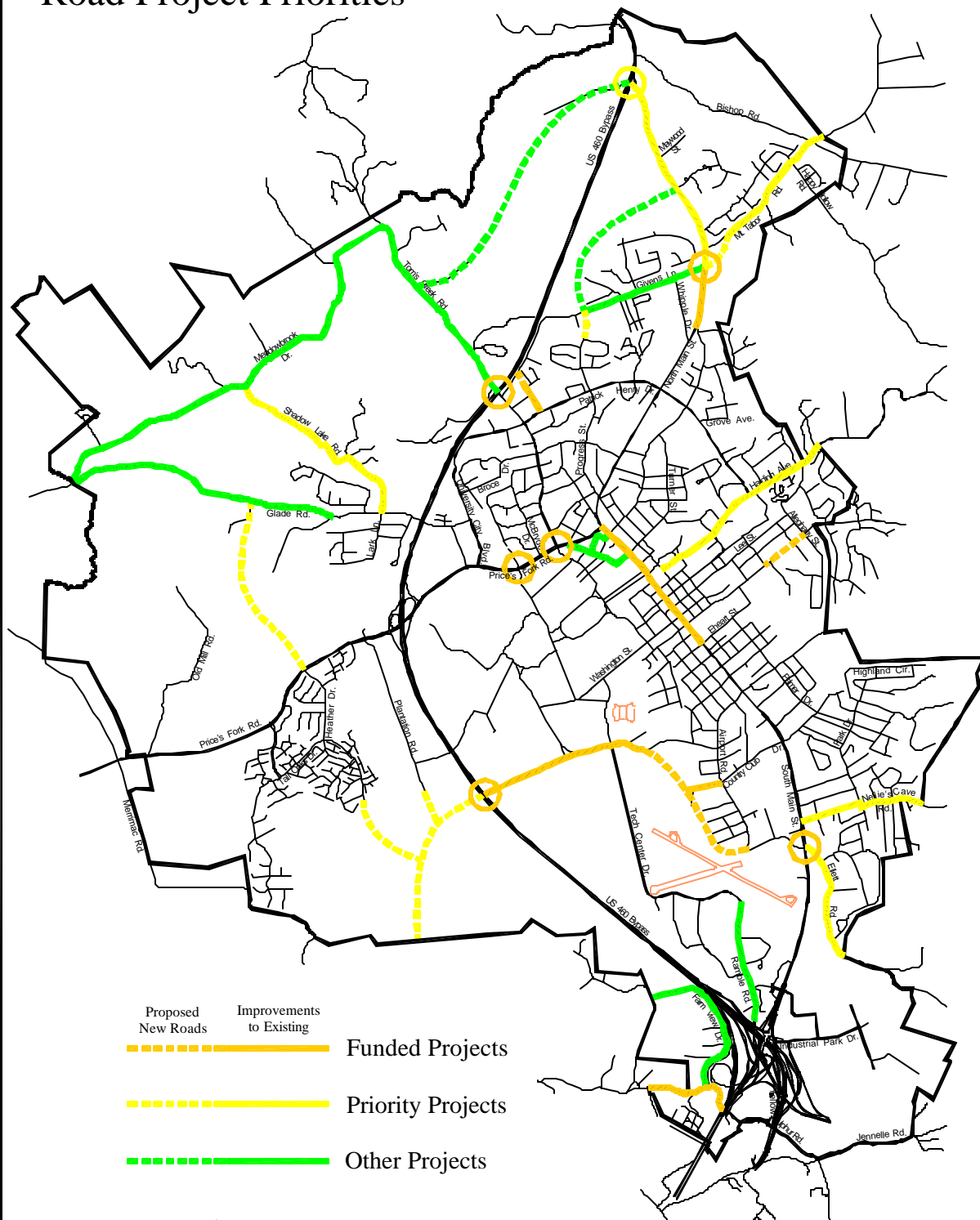
- Design and construct road facilities to accommodate a variety of modes of transportation, including electric cars, bicycles, and new technologies.
- Complete the *Other* road projects listed in the town's Road Project Priorities (*Figure T-14*).
- Determine the need for further improvements to the Grissom Lane/Ellett Road/Nellie's Cave Road network per the Grissom Lane Traffic Study.

Road Project Priorities

Funded Projects	
<input type="checkbox"/>	Hubbard Street Extension from Airport Road to Southgate Drive (Rt. 314) with a grade-separated crossing for the Huckleberry Trail. Improve Southgate Drive and construct an interchange at the Route 460 Bypass. Extend Country Club Drive as a two-lane road with berm and bikeway from Airport Road to the proposed Hubbard Street extension. Include bicycle lanes and trail.
<input type="checkbox"/>	Clay Street Extension from its present terminus at Jefferson Street to Allegheny Street.
<input type="checkbox"/>	Hightop Road Improvements to include bike lanes and sidewalks as part of the Route 460 Blacksburg Interchange.
<input type="checkbox"/>	Toms Creek Road/Route 460 Bypass Interchange with grade separation and realignment of Givens Lane onto Chickahominy Drive to connect with Patrick Henry.
<input type="checkbox"/>	Main Street Improvements in accordance with the Downtown Master Plan recommendations.
<input type="checkbox"/>	Intersection Improvements to Ellett Road at Main Street and along Prices Fork at West Campus Drive and Tom's Creek Road to enhance pedestrian safety and traffic flow.
<input type="checkbox"/>	North Main Street Improvements from Giles Road to Mount Tabor Road including realigning Mount Tabor Road with Givens Lane and widening Main Street to four lanes with landscaped medians, bike lanes, trails, and sidewalks.
Priority Projects	
<input type="checkbox"/>	Progress Street Extension to Givens Lane to improve access to the Givens/Northside Park area.
<input type="checkbox"/>	Commerce Street Extension through the Industrial Park to Jennelle Road.
<input type="checkbox"/>	North Main Street Improvements from Mount Tabor Road to the Route 460 Bypass including widening to four lanes with landscaped medians, bike lanes, trails, and sidewalks.
<input type="checkbox"/>	Shadow Lake Road Improvements to include bike lanes and sidewalks.
<input type="checkbox"/>	Mount Tabor Road Improvements from Main Street to the corporate limits and realignment of the intersection with Givens Lane at Main Street.
<input type="checkbox"/>	Heather Drive Extension from Price's Fork Road to Glade Road (collector street).
<input type="checkbox"/>	Harding Avenue Improvements between Progress Street and the corporate limits.
<input type="checkbox"/>	North Main Street/Rt. 460 Interchange
<input type="checkbox"/>	Route 314 West (Southgate Drive) Extension west of the Route 460 Bypass to improve access to Hethwood, Merrimac, and Warm Hearth.
<input type="checkbox"/>	Ellett Road Improvements to widen to four lanes with bike lanes and sidewalks.
<input type="checkbox"/>	Nellie's Cave Road Realignment with Marlinton and intersection improvements at Marlinton and South Main Street.
Other Projects	
<input type="checkbox"/>	Givens Lane Improvements to include bike lanes and sidewalks.
<input type="checkbox"/>	Tom's Creek Road Improvements west of Route 460 to include bike lanes and sidewalks.
<input type="checkbox"/>	Glade Road Improvements to include bike lanes, trail, and sidewalks.
<input type="checkbox"/>	Meadowbrook Road Improvements to include bike lanes, trail, and sidewalks.
<input type="checkbox"/>	Ramble Road Improvements from Industrial Park Drive to the Corporate Research Center.
<input type="checkbox"/>	Turner Street Improvements between Prices Fork Road and Main Street to include turn lanes at the Creative Arts Center and a bike path.
<input type="checkbox"/>	Giles Road Extension from Main Street to Turner Street to improve access in the Barger Street area.
<input type="checkbox"/>	Progress Street Extension through Northside Park to North Main Street.
<input type="checkbox"/>	Farmview Drive/Mabry Lane Improvements to include bike lanes and sidewalks.
<input type="checkbox"/>	Collector Road Connector between Tom's Creek Road and North Main Street/Route 460.
<i>All road projects should include bike lanes, trails, sidewalks and other amenities as called for in this plan.</i>	

Figure T-14, Road Project Priorities

Road Project Priorities



November 27, 2001

Town of Blacksburg
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Figure T-15, Road Project Priorities

ALLEYS

Description

Current Use

Alleys are unique features in some residential neighborhoods in Town. They provide access to many of the town's older homes which may be "street locked" due to small lots and no driveways. They also provide secondary, and in some cases, primary access to garages and utilities in the rear of properties. Most alleys contain public utility lines, and several provide locations for garbage pick-up. Near the campus, alleys provide an alternate path for pedestrians and bicycles. Some alleys were never improved and therefore exist as an extension of a backyard. On commercial lots, loading functions can take place in alleys rather than occurring adjacent to the main thoroughfares, reducing the risk of traffic accidents. However, due to the steep slopes in some alleys, retaining walls can obstruct the view of oncoming traffic.

Typical Construction

Alleys in Town generally have very narrow widths, which range from 7 1/2 to 15 feet and constrain two-way access. Some alleys are paved while others remain unimproved. Maintenance for alleys takes a lower priority than that on primary streets, and is not eligible for funding from the state. Also, many alleys have no provisions for a vehicle to turn around at dead ends.



Figure T-16, Alley behind Bogen's

Unbuilt Streets

Before Blacksburg had a subdivision ordinance, a number of subdivisions were developed in which streets were platted but not built. These streets belong to the town in that the right-of-way was dedicated to the town through the recordation of the plat. Most of these streets have never been constructed and appear as extensions of yards or overgrown areas. These "paper streets" vary in right-of-way width. Some of them meet the VDOT requirement of 50-foot right-of-way width for local streets, while others have much smaller rights-of-way. Future road or bike-walkway construction could take place on some of these rights-of-way in order to improve the overall transportation function of the town. In other cases they may contribute to the town's greenway network, or may serve no current or future Town purposes.

Opportunities

- ◆ The alley network provides opportunities for the expansion of multi-modal use.
- ◆ The alley and unbuilt street properties provide a base for development of a townwide greenway network.
- ◆ Alleys in residential areas contribute to historic and neo-traditional character.
- ◆ Alleys provide opportunities for utility services at the rear of properties.
- ◆ Alleys provide locations for loading/unloading shipments to downtown businesses, maintaining a safe traffic flow on the town's streets.

Challenges

- ◆ The town receives no maintenance funding for alleys from the state; thus they are inevitably maintained to a lesser level than streets.
- ◆ Commercial use of alleys in residential areas may degrade the character of the neighborhood.
- ◆ Alley policies need to be standardized and enforced.
- ◆ Alleys are prone to cut-through traffic during peak traffic hours.
- ◆ The 15-mile per hour speed limit for alleys needs enforcement.

What is Changing

In most towns and cities in Virginia, the trend has been to vacate and dispose of alleys and their maintenance responsibilities. Blacksburg has taken a different perspective on alleys and recognizes the benefits of alleys for preserving neighborhoods, providing service entrances in commercial areas, and utilizing existing rights-of-way for ingress and egress, rather than increasing paved areas. Moreover, the use of existing and new alleys is encouraged throughout Town.

GENERAL POLICIES

- ❑ Support the retention and utilization of existing alleys.
- ❑ Encourage the provision of new alleys into development projects.
- ❑ Work with property owners to address challenges of alley use.
- ❑ Maintain and improve alleys when and where necessary, as funding allows.

ACTION STRATEGIES

in general

- Vacate an alley and unbuilt right-of-way only after an evaluation of its function and a determination that it serves no useful purpose in a neighborhood or in the transportation network, in accordance with the town's alleyway vacation process.
- Maintain alleys with asphalt or gravel according to their surface needs.
- Encourage use of alleys in downtown commercial areas to access rear yard parking areas.
- Encourage single-unit residences to make use of alleys for secondary access through provisions in the Zoning Ordinance and Subdivision Ordinance.
- Where residents abutting an alley desire upgrading of the alley sooner than the improvement schedule, allow the residents to participate in the cost of the improvements through a cost-share program where the adjoining property owners pay the cost of materials and the town provides the labor and equipment, not to exceed 50 percent of the overall cost.

within 5 years

- Encourage land developers to consider the utilization of alleys in a development to enhance its character and the flow of traffic in the town.
- Restrict joint use of an alley by single-family residential uses and more intensive uses (see the Special Exception process defined in the Blacksburg Zoning Ordinance) to avoid conflicts in the alley due to differences in traffic volumes, types, and speeds.

- Develop controls defining the allowed use of existing alleys and unbuilt rights-of-way for access to properties.

within 25 years

- Make improvements to alleys if the town or adjacent residents see a critical need for improvement.
- Where residents abutting an alley desire upgrading of the alley sooner than the improvement schedule, allow the residents to participate in the cost of the improvements through a Special Property Tax Assessment whereby abutting property owners to alleys would be assessed the cost to upgrade an alley.

beyond 25 years

- Provide streetscape improvements along all alleys.

Alley and Unbuilt Right-of-Way Vacation Process

- 1) When requests for a vacation of an alley or unbuilt right-of-way are received by the town,
 - make an assessment of the monetary value of the alley and unbuilt share in the alley or unbuilt rights-of-way according to current assessed values of adjacent property and square footage to be vacated; **and**
 - provide notification to all neighborhood representatives about the vacation request and associated public meetings; **and**
 - provide all adjacent property owners an opportunity to apply for an equal right-of-way.
- 2) Vacate alleys and unbuilt rights-of-way only when the following three conditions are met:
 - The alley or unbuilt right-of-way is judged as not important to the town's neighborhoods in terms of providing rear access for residents, space for utilities, and a means to provide Town services; **and**
 - The alley or unbuilt right-of-way is not important to the town's present or future transportation network in terms of automobile, bicycle, or pedestrian traffic; **and**
 - The alley or unbuilt right-of-way does not serve as the primary access to parcels.
- 3) Assess whether or not the alley or unbuilt right-of-way could be used for another public function such as park land or public open space.
- 4) If there is no other public function to which the property could be used, and the town is able to claim an interest in the alley or unbuilt rights-of-way, and the applicant is willing to remit to the town the value of the alley as computed in 1) above, consider disposition of the alley or unbuilt right-of way.
- 5) The disposition of an alley or unbuilt right-of-way shall not be acted upon without public hearings before the Planning Commission and the Town Council, duly advertised, in accordance with the Virginia Code.

Alley and Unbuilt Rights-of-Way Retention Recommendation

Right of Way	Recommendation	Reason
End of Eakin Street	Retain	Access to bike path
Country Club Drive, by campus	Retain	Future access should be retained for extension of Country Club and path
Eastview Terrace	Retain	Possible extension for residential development
Lincoln Lane	Retain	Possible extension for residential development
Dehart Street	Retain	Area needed for future Hubbard Street extension
King Street	Retain	Possible pedestrian access
Cedar Hill Drive	Retain	Necessary for future subdivision
Grayland Street	Retain (up to residential)	Access to commercial buildings
Emerald Street Extension	Retain	Possible future alternative route through this neighborhood
Sunrise Drive Middle Link	Retain	Possible extension or bike path
Valleyview Drive	Retain	Possible extension for future development
Washington Street Middle Link	Retain	Possible future connection of Washington Street segments
Clay Street	Retain	Part of Clay Street extension project
Yellow Sulphur & Ramble Rds.	Retain	Part of VDOT ROW for Route 460
Mabry Lane	Retain	Possible future VDOT project (Roanoke Connector)
Eheart Street	Retain	Possible Eheart Street extension
Grove Avenue	Retain	Possible extension of Grove Avenue or bike path
Craig Drive	Retain	Craig Drive extension anticipated with future subdivision plans
Chicahominy Drive	Retain	Part of future Shenandoah project; included in Master Plan for PDR
Pineridge Drive	Retain	Access to Pineridge Drive in Laurel Ridge Subdivision from Tom's Creek
Oriole Drive	Retain	Possible extension of Oriole Drive
Montgomery Street Extension	Retain	Access to undeveloped site; aligned with existing street
Old Roanoke Road-Piedmont to New Roanoke Street, Eastern Link, & Harding to Eastern Link	Retain	Possible street extension or bikeway
Virginia Street in Airport Acres	Retain	May be needed for Hubbard/Country Club extension
First Street	Retain	May be needed for Hubbard/Country Club extension
Second Street	Retain	May be needed for Hubbard/Country Club extension
Airport Road in Airport Acres	Retain	May be needed for Hubbard/Country Club extension
Near Ramble Road 0.6 miles from Industrial Park	Retain	Access to undeveloped site
Lindale Drive	Retain	Access to Shadow Lake Road

Figure T-17, Alley and Unbuilt Rights-of-Way Retention Recommendation

Street Designations

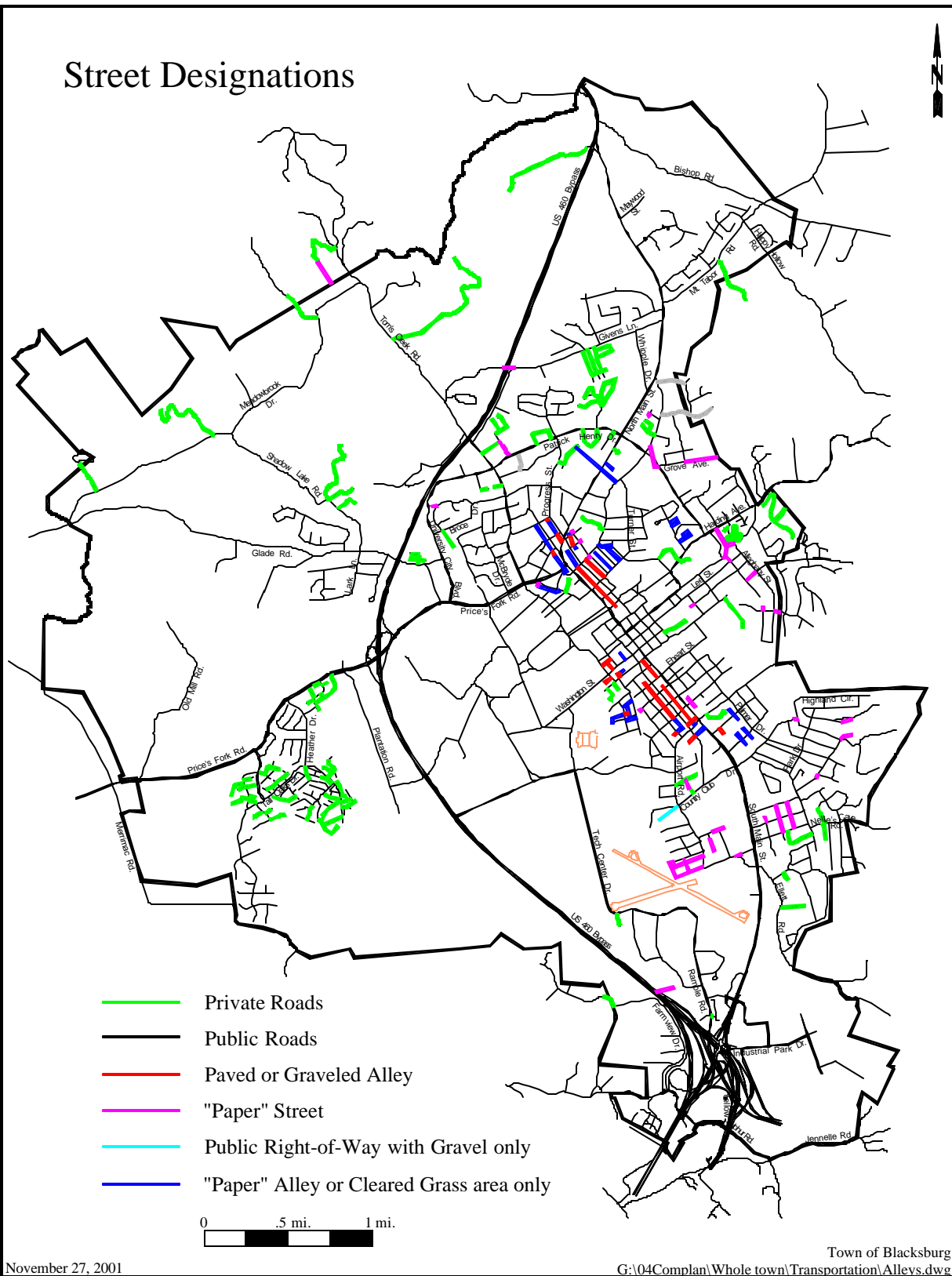


Figure T-18, Street Designations

MASS TRANSIT

Description

Purpose

Blacksburg Transit exists to provide safe, efficient, and reliable public transportation at a reasonable cost to the citizens of Blacksburg and students, faculty and staff of Virginia Tech. The provision of high quality public transportation helps to alleviate traffic congestion and parking demand throughout the town and the campus while also increasing the mobility of people who do not own, or are not able to drive, an automobile.

Service

Bus service in the town is provided by Blacksburg Transit, which has a ridership of 1.6 million passengers per year. Currently, six local routes serve the town and the core of campus at Virginia Tech. Two express routes link Blacksburg to Christiansburg serving the Montgomery Regional Hospital, Route 460 Business corridor, downtown Christiansburg, and Interstate 81 Park and Ride lots. Use of the transit system is open to the general public, although ridership is predominately student, faculty, and university staff. Transit vehicles are equipped to serve the physically challenged, and a demand responsive Paratransit system is also provided to address the unique needs of the handicapped in accessing all Blacksburg Transit route locations. An exceptional on time performance has been met by the system for several years, standing at essentially 100 percent.



Figure T-19, Blacksburg Transit Bus

Route Determination

Location of new bus stops and route changes or additions are coordinated with regional and local land use plans. The Transit Advisory Committee recommends new bus routes, or adjustments to existing routes, to the Town Council for final approval. The advisory committee's recommendations respond directly to changes in the street network and development patterns. The committee encompasses citizens who represent both the university and the town. In addition, a Paratransit Advisory Committee provides recommendations for service to the physically challenged.

Americans with Disabilities Act

This federal legislation requires all new transit buses to be equipped with wheel chair lifts on each bus. Under the current replacement schedule, all Blacksburg Transit buses will be lift equipped by 2005, making the system more accessible to persons with disabilities. All new transit stops are also required to meet ADA standards regarding

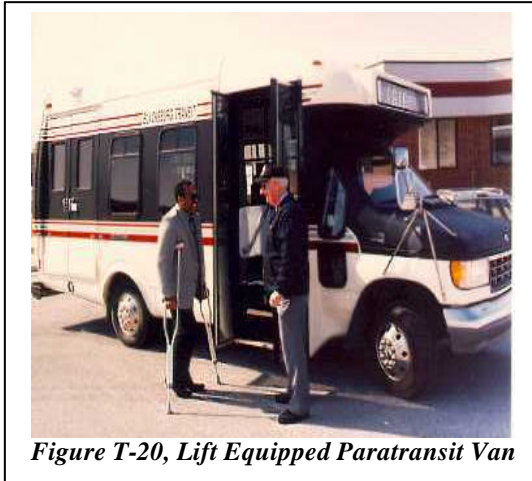


Figure T-20, Lift Equipped Paratransit Van

accessibility, including the path of travel to and from each stop. Existing stops are required to meet ADA standards as they are renovated.

Funding Source

The Town of Blacksburg operates Blacksburg Transit. The service is fully funded by federal and state transit grants, fare box revenues, and a portion of the Virginia Tech student activity fees. In addition, special routes, such as the Two Town Trolley serving destinations in Montgomery County and Christiansburg, are funded through user fees. The cost per passenger is currently the lowest in the Commonwealth of Virginia. The 50-cent fare has remained relatively constant over the years.

State and federal funding may be reduced if the town/county area becomes a Standard Metropolitan Statistical Area. It is unclear at this time what effect, if any, a micropolitan area designation will have on Blacksburg for these mass transportation funding sources.

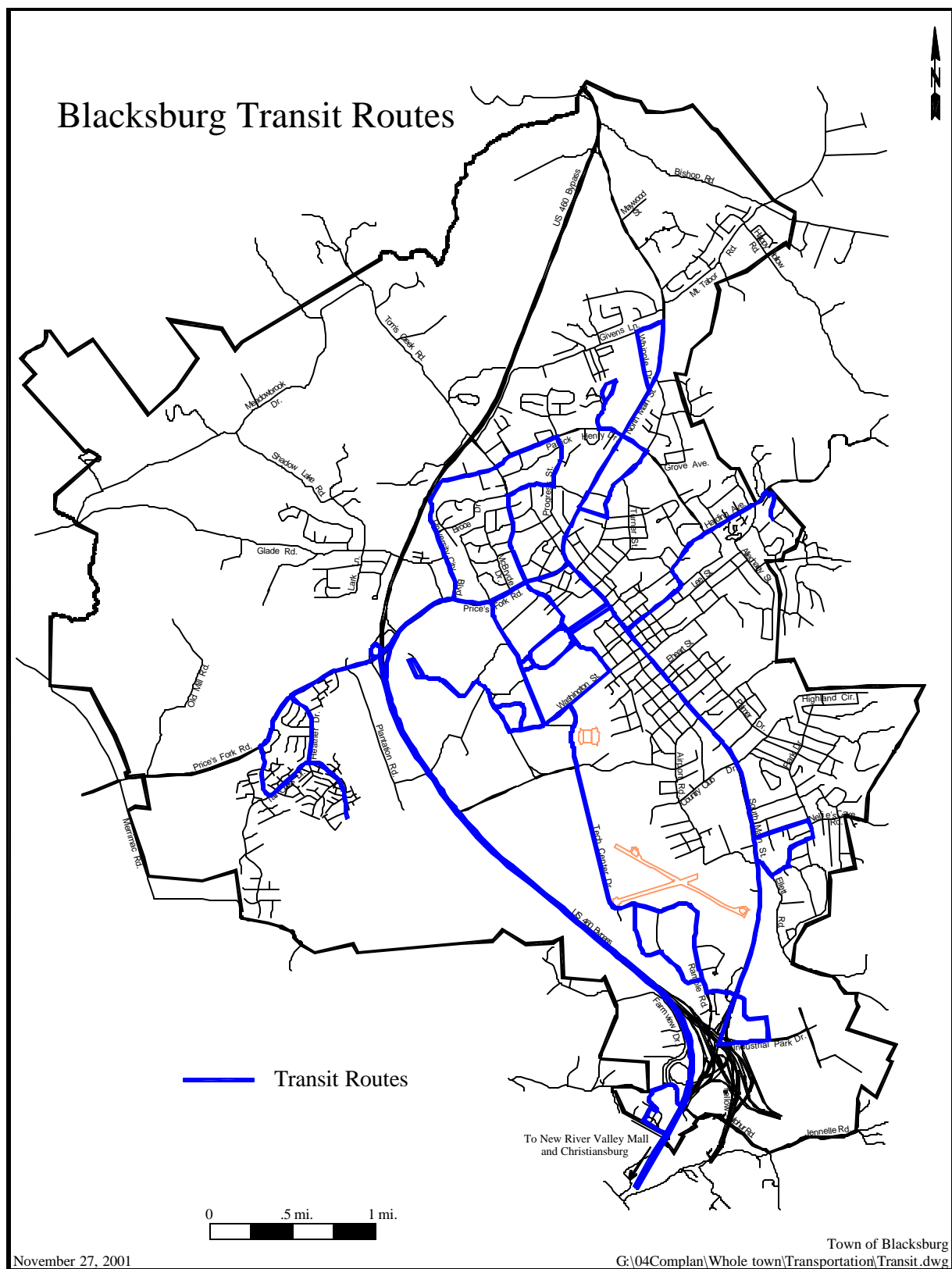


Figure T-21, Blacksburg Transit Routes

Opportunities

- ◆ Efficient mass transit opportunities are provided by the Blacksburg Transit system to reduce traffic and demand for parking facilities.
- ◆ The availability of a local transit system supports the pedestrian orientation of the town and enables reliance on modes of transportation other than the automobile.
- ◆ The transit system has an excellent safety record and is regularly the recipient of awards for efficiency of operation.
- ◆ The transit system operates with no general fund subsidy from the town.
- ◆ Transit is critical to improving livability and function of the town street network.
- ◆ The transit system works with local planning agencies to plan and develop the appropriate public transportation services to effectively meet the needs of our citizens.
- ◆ The transit system educates the community to the benefits and opportunities of public transportation.
- ◆ Improving the town and region's air quality by encouraging the use of convenient, efficient, and quality public transportation in lieu of personal vehicles.
- ◆ Provides a demand responsive paratransit that compliments regular route service to meet the needs of persons with disabilities.

Challenges

- ◆ Current funding structures and fare levels cannot support extension of traditional transit service into lower density residential neighborhoods.
- ◆ Investigate alternative funding sources to supplement the transit operating budget and aid in the maintenance of assets such as state-of-the-art buses and quality parts and mechanical expertise.
- ◆ Service to some high density housing in town is constrained by inadequate street dimensions or pavement structure.
- ◆ The demand for bus shelters is higher than the availability of funds.

- ◆ Require developers, through the site review process, to include public transportation compatible design in their projects.
- ◆ The demand for service outside the town will increase with growth.
- ◆ The town and county may be classified as a metropolitan area as a result of the 2000 Census information, which could negatively impact transit funding for the town.

What is Changing

Federal Funding

As with many federal programs, it can reasonably be assumed that federal funding for transit systems will be reduced in future years. Therefore, to continue the current level of service will require a larger commitment of local funds or a restructuring of the funding of the program.

Clean Air Act

Emissions requirements within this federal legislation are driving rapid technological changes in fuels for transit vehicles. It can be anticipated that diesel buses will be phased out within 20 years. Potential replacements will be electric, fuel cell, natural gas, methane or other alternative fuels. Although Blacksburg has clean air and is in an air quality attainment area, under this act buses purchased must meet emission pollution reduction mandates. Since the emissions standards will continue to become more and more stringent, the standard diesel bus will no longer be the most cost-effective option and thus will likely be phased out.

Ridership

Transit system ridership is currently rising and will continue to grow with Virginia Tech and the community. Initiatives to increase service quality by more frequent service at more times of day have resulted in higher ridership levels. New commercial and high-density residential developments generally locate along transit routes or try to access transit services to gain a competitive edge. Parking privileges at Virginia Tech will also play a significant role in service increases. As parking privileges on campus become more restricted, ridership is anticipated to increase accordingly.

Ridesharing

Blacksburg Transit and Virginia Tech are coordinating a ridesharing program. Ridesharing is a web-based service that matches car pool candidates sharing similar schedules. A database with current

university records may be expanded to include other significant local employers to promote ridesharing.

Park and Ride Lots

As road construction continues on Interstate 81 and begins on Route 460, park and ride lots are being proposed or built at several interchanges. The transit system is also encouraging local communities to develop other park and ride lots on some smaller highways that run throughout the region. Blacksburg Transit seeks to provide service to these areas to reduce traffic congestion and environmental degradation.

GENERAL POLICIES

- ❑ Operate the Blacksburg Transit system in a manner that stresses safety, courtesy, on time performance, and well-maintained buses.
- ❑ Provide service that is sensitive to the needs of a diverse community including paratransit service, which complements the regular routes and complies with federal and state requirements by providing service to the physically challenged.
- ❑ Improve the regional accessibility of Blacksburg and integrate bus, rail, and air modes of transportation into the overall Town transportation system.
- ❑ Expand and improve Blacksburg Transit service in response to community growth, and to enhance transit accessibility and convenience, lower parking demand, energy use, and air pollution by reducing the traffic on local roads.
- ❑ Coordinate land use decisions with existing and planned public transportation services.
- ❑ Coordinate the provision of public transportation in the larger region.
- ❑ Operate the transit system in a cost-effective, fiscally sound manner that is well supported by federal and state grants.

ACTION STRATEGIES

in general

- Employ site planning and design criteria to make public and private development supportive of public transportation.
- Promote Greyhound or other regional bus service to Blacksburg.
- Ensure transit access is provided for any new high-density residential development and any retail development.
- Evaluate new multi-family and commercial developments and road networks for needed transit amenities such as bus pull-offs and shelters.
- Expand bus service when demand is demonstrated or projected, and when supported by an appropriate revenue source.
- Design bus pull-offs into all new collector and arterial streets.
- Comply with all federal and state environmental regulations and guidelines by using best available technologies and other innovative systems.
- Promote the Blacksburg Transit system as a means for reducing energy use and improving air quality.
- Upgrade facilities at major bus stops for accessibility and amenities such as shelters, pull-offs, trash cans, benches, and information kiosks as appropriate.
- Educate potential park-and-ride participants as to the benefits and amenities of Blacksburg Transit and its services (e.g., the Industrial Park, CRC, Tech, etc.).

within 5 years

- Promote residential development in areas with densities that can be served by public transportation.
- Consider modification of the Zoning Ordinance to allow for reduced parking requirements for retail or commercial establishments if developed with transit service enhancements.
- Provide shuttle service to and from other major population centers and transportation centers.

- Develop subscription service to target areas, including neighborhoods, where service can be financially supported (e.g., Industrial Park and CRC service from Christiansburg, service to the university from various outlying areas, etc.).
- Encourage two-way commercial bus service between Town and other localities, such as the New River Community College.
- Explore options for alternative fueling of the transit fleet.
- Develop satellite park-and-ride facilities with bus service to reduce traffic congestion in the region (e.g., the Industrial Park, CRC, Virginia Tech, etc.).

within 25 years

- Coordinate an express bus service between Blacksburg and Roanoke and between Blacksburg and Radford.
- Explore the provision of trolley service along Main Street through the downtown between the Patrick Henry Drive area and South Main Street area.
- Coordinate the provision of transit service with area social service agencies.
- Participate cooperatively with the university in testing and implementing new technologies for vehicles, equipment, or communications.

beyond 25 years

- Expand and modify the types of vehicles and routes used in mass transit as technology advances.
- Operate the transit system reliably for the community as a primary means of transportation.
- Coordinate local government vehicle maintenance services with other regional mass transit providers.
- Provide high-speed passenger connection, such as magnetic levitation or monorail, between Radford, Blacksburg, Christiansburg, and Roanoke.

SIDEWALKS AND BICYCLE LANES

Description

Purpose

Sidewalks complement the other components of the transportation network by increasing the safety of pedestrians and offering an alternate and practical mode of transportation, thus encouraging more people to walk to their destinations.

Sidewalks serve a variety of functions in the community. They separate pedestrian and vehicular traffic, thereby facilitating better traffic flow, affording more safety to pedestrians, and encouraging a pedestrian mode of transportation. Sidewalks allow for circulation within residential areas and provide pedestrian access to schools, recreational areas, commercial areas, the downtown, and Virginia Tech. Sidewalks also provide safer areas



Figure T-22, Pedestrians on Draper Road Sidewalk

for disabled citizens to travel and for children to travel and play. Bike lanes are provided along many collector streets in town to further promote alternative methods of transportation.

Sidewalk Network

During the 1980s, a Sidewalk and Curb and Gutter Policy was developed to provide guidance in the further development of the sidewalk system. Since this study was published, sidewalk planning has consisted of the prioritization of projects in the Capital Improvements Program and modifications to the Subdivision Ordinance. The town has an on-going program of constructing and improving sidewalks, and the Subdivision Ordinance requires installation of sidewalks in all new subdivisions. There are currently approximately 25 miles of streets with sidewalks along at least one side in Town.

Construction Funding

There are three methods of financing sidewalks in Town. The first is the inclusion of sidewalks in new developments, where the developer incurs all of the costs. The second is a cost-sharing arrangement for construction of sidewalks along the road frontage of private property at the request of the adjacent property owner. Under this arrangement, the town provides the labor and equipment, and the property owner

pays for the cost of materials. The third method of financing sidewalk projects is through Town installation under the Capital Improvements Program, whereby all of the costs are borne by the town. These projects are prioritized by a ranking system.

Sidewalk Project Ranking System

<i>Criteria</i>	<i>Weight</i>
½ mile distance to a school	2
½ mile distance to a Town park	1
Project along a collector or arterial road	1
½ mile distance to downtown commercial area	1
½ mile distance to Virginia Tech academic campus	1
½ mile distance to a general commercial area	1
Project distance less than ¼ mile in length	1
Project within ¼ mile of a bus stop	1
Project directly adjacent to high density development	1
Maximum Points	10

Figure T-23, Sidewalk Project Ranking System

Off-Road vs. On-Road

Often in communities there is a conflict between the proponents of on-road bike lanes and the proponents of off-road bike trails. In Blacksburg, it is recognized that many citizens enjoy riding bicycles, walking, or jogging on multi-purpose trails that are separate from automobile traffic. In addition, it is recognized that many citizens enjoy riding bicycles within designated bike lanes on existing roads that are separate from vehicular traffic lanes. Therefore, the current focus is to develop a system for each purpose, which occasionally provides for access between the two, without requiring switching from one system to the other. Off-road trails are further discussed in the Greenways chapter of this plan.



Figure T-24, Cyclist in the Bike Lane

Opportunities

- ◆ The Greenway/ Bikeway/ Sidewalk/ Corridor Committee provides strong advocacy for planning and development of on-road bicycle lanes and sidewalks.
- ◆ Many residents walk to their destinations, and for recreation and physical fitness.
- ◆ Most arterial and many collector roads have sidewalks on at least one side.
- ◆ New subdivision construction must provide sidewalks on at least one side of its streets.
- ◆ The Blacksburg Transit system and the bike-walkway network enable the sidewalk system to serve many transportation needs.

Challenges

- ◆ A few heavily traveled collector roads do not have sidewalks along them.
- ◆ Older streets, which are unlikely to have sidewalks, generally do not have sufficient right-of-way to construct sidewalks with any separation from the street without easements from adjacent properties.
- ◆ Town Code states that property owners are responsible for the removal of snow from the adjacent sidewalks.
- ◆ Town crews may add snow to sidewalks in the process of snow removal from narrow streets.
- ◆ Sidewalk construction in established neighborhoods may conflict with mature trees or other landscaping.
- ◆ There is a predominance of automobile use over other modes of transportation due to comfort, convenience, lack of public education, or safety concerns.
- ◆ Conflicts between bike, auto, and pedestrian safety occur where the transportation system does not incorporate multi-modal uses. Maintaining a contiguous system of walkways and bikeways, instead of a fragmented system, is critical to avoiding such conflicts.

What is Changing

Pedestrian Promenades

The creation of pedestrian promenades in downtown areas is often an effective strategy that enhances the character and appeal of that area. A promenade would consist of sidewalks, with perhaps alternate paving material such as brick, lighting, street trees, historical signage, benches, and occasional mini-parks. In addition, wider sidewalks in the downtown and promenade areas enhance opportunities for street vendors and casual use. A downtown promenade should be designed in accordance with the Downtown Master Plan recommendations.

GENERAL POLICIES

- ❑ Incorporate citizen involvement in the process of planning and repairing sidewalk facilities.
- ❑ Create a network of sidewalks that serves the entire community and provides for safe pedestrian access to all potential destinations in Town including public schools, downtown, Virginia Tech, community facilities, major shopping areas, and residential areas. Allow a variety of sidewalk sizes and materials as appropriate to setting and use.
- ❑ Construct a bike-walkway system that is sensitive to both the commuter and the recreational rider, as well as pedestrians.
- ❑ Construct and maintain a sidewalk system that minimizes conflicts, is accessible to all users, and maximizes pedestrian safety at all potential points of conflict with vehicular traffic.
- ❑ Develop an on-road system of lanes that are independent, continuous, and avoid the necessity to switch from one system to the other.
- ❑ Develop a bike-walkway system that minimizes potential conflicts between bicycles and motor vehicles, pedestrians, and other bicycles.
- ❑ Educate the general public on the importance of the sidewalk and bikeway system and its safe use. Educate cyclists, pedestrians, and motorists about safety concerns related to the use of bicycles, and encourage wide use of bike-walkways. Promote bicycling as an alternative mode of transportation.
- ❑ Maintain a bike-walkway system that is safe and convenient for all users. Provide all bike-walkways with riding surfaces free of obstructions and maintain all bike-walkways free of trash, gravel, snow, and other hazards.

ACTION STRATEGIES

in general

- Encourage periodic Corridor Committee review of the bike-walkway system and solicit input from the public on bicycle/pedestrian priorities.
- Require the inclusion of sidewalks in all new subdivisions unless it is demonstrated that they are not needed because the subject development is rural in nature and sidewalks are not practical, or an adequate alternative pedestrian circulation system is provided. In both cases require a variance from the sidewalk requirement.
- Develop sidewalks as part of an intermodal transportation system by providing easy access to transit stops and connections to the greenway system.
- Enforce snow removal ordinance, and ensure sidewalks are obstruction free. Educate citizens and businesses about maintaining clear and safe sidewalks.
- Increase and maintain police and volunteer patrols to enforce Town rules and regulations along primary walkways and bikeways (e.g., leash law, helmets, speeding, etc.).
- Coordinate safety and education efforts with Virginia Tech to reach the large population of cyclists and motorists within Town.
- Provide regular maintenance including sweeping and safety assessments of existing sidewalks, trails, and bicycle lanes.
- Include bicycle lanes and sidewalks or off-road trails when new roads are planned and in all repaving plans for Town roads.
- Incorporate existing undeveloped rights-of-way into the bike-walkway system wherever possible.
- Extend sidewalks that are isolated from the rest of the walkway system.
- Encourage businesses and employers to provide bicycle racks for the use of employees and customers.

within 5 years

- Consider the inclusion of a four foot wide grass strip between the road and sidewalk in the town's Subdivision Ordinance.
- Design sidewalks on both sides of the road in all publicly funded new road construction projects.
- Consider mandating construction of sidewalk on both sides of streets in new subdivisions.
- Pursue new sources of funding to alleviate the deficit of sidewalks.
- Provide appropriate signage, lighting, markings, and other physical improvements along bike-walkways, including pedestrian crosswalks, to ensure safe and easy use by bicyclists, pedestrians, and motorists.
- Amend the Zoning Ordinance to require sidewalks of greater width in commercial areas to provide for sidewalk display of goods and street vendors.
- Create pedestrian promenades, in accordance with the Downtown Master Plan, that enhance the character and appeal of the downtown and surrounding areas.

within 25 years

- Encourage the Montgomery County School Board to establish school walking zones within Town.
- Complete development of an on-road system of bicycle lanes that is continuous and interconnected.
- Provide sidewalks on at least one side along all collector streets in the town, and on all streets within 1/2 mile of public schools.
- Place signs at Town entrances that express Blacksburg's commitment to the pedestrian and pedestrian safety.

beyond 25 years

- Complete construction of all sidewalk priorities.

Sidewalk Construction Priorities

Name	Location	Cost Estimate	Source	Target Construction Year
High Priorities				
University City Boulevard	Broce Drive to Tom's Creek Road	\$152,500 (Total) \$74,718 (Town)	Local/ Grant	2001-02
Broce Drive	Tom's Creek Road to University Blvd	\$66,976	Local	2002-03
Clay Street	Main Street to Corporate Limits	\$85,000	Local	2002-03
University City Boulevard	Prices Fork Road to Broce Drive	\$358,899 (Total)	Local/ Grant	2002-03
Owens Street	Turner Street to Harding Avenue	\$56,185	Local	2002-03
Turner Street	Main Street to Giles Road	\$97,290	Local	2003-04
Patrick Henry Dr.	Municipal Park to Lucas bikeway	\$13,200	Local	2003-04
New Kent Road	New Kent duplexes to Fairfax	\$87,974	Local	2003-04
Harding Avenue	Patrick Henry Drive to Windsor Hills	\$29,042	Local	2004-05
Other Priorities				
Harrell Street	Green Street to Miller Street		Local	Unscheduled
Park Drive	Grissom Lane to Palmer Drive		Local	Unscheduled
Airport Road	Margaret Beeks Elementary School to Hubbard Street		Local	Unscheduled
McBryde Lane	Price's Fork Rd. to Tom's Creek Rd		Local	Unscheduled
North Main St.	Giles Road to Rt. 460 Bypass		Local	Unscheduled
Sunset Boulevard	Main Street to Palmer Drive		Local	Unscheduled
Hemlock Drive	Main Street to Palmer Drive		Local	Unscheduled
Hubbard Street	Main Street to Eastview Terrace		Local	Unscheduled
Patrick Henry Drive	Giles Road to High School		Local	Unscheduled
Graves Avenue	Main Street to Municipal Golf Course		Local	Unscheduled
Kelsey Lane	McBryde Lane to Tom's Creek Road		Local	Unscheduled
Farmview Drive	Entire length		Local	Unscheduled

Figure T-25, Sidewalk Construction Priorities

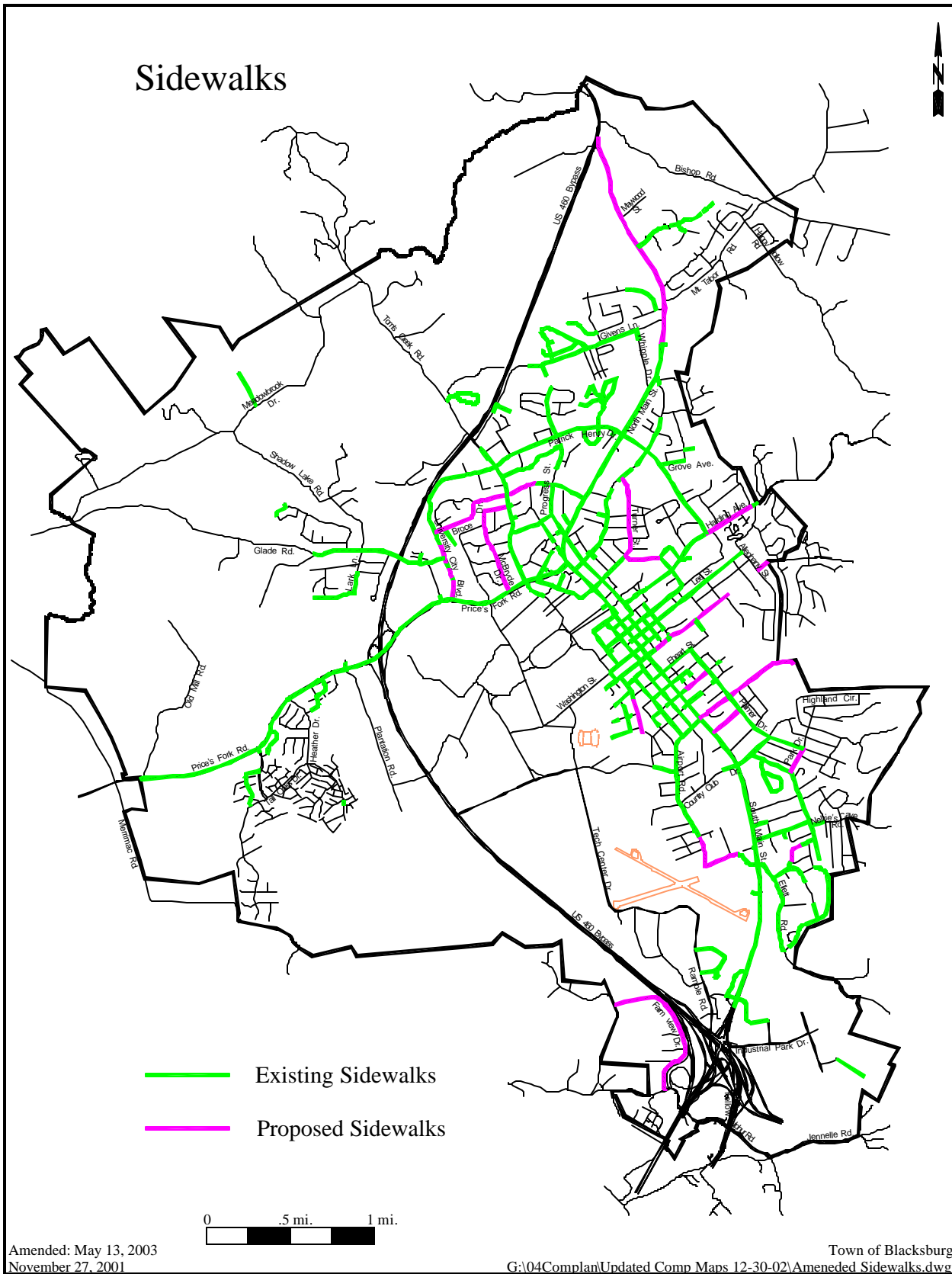


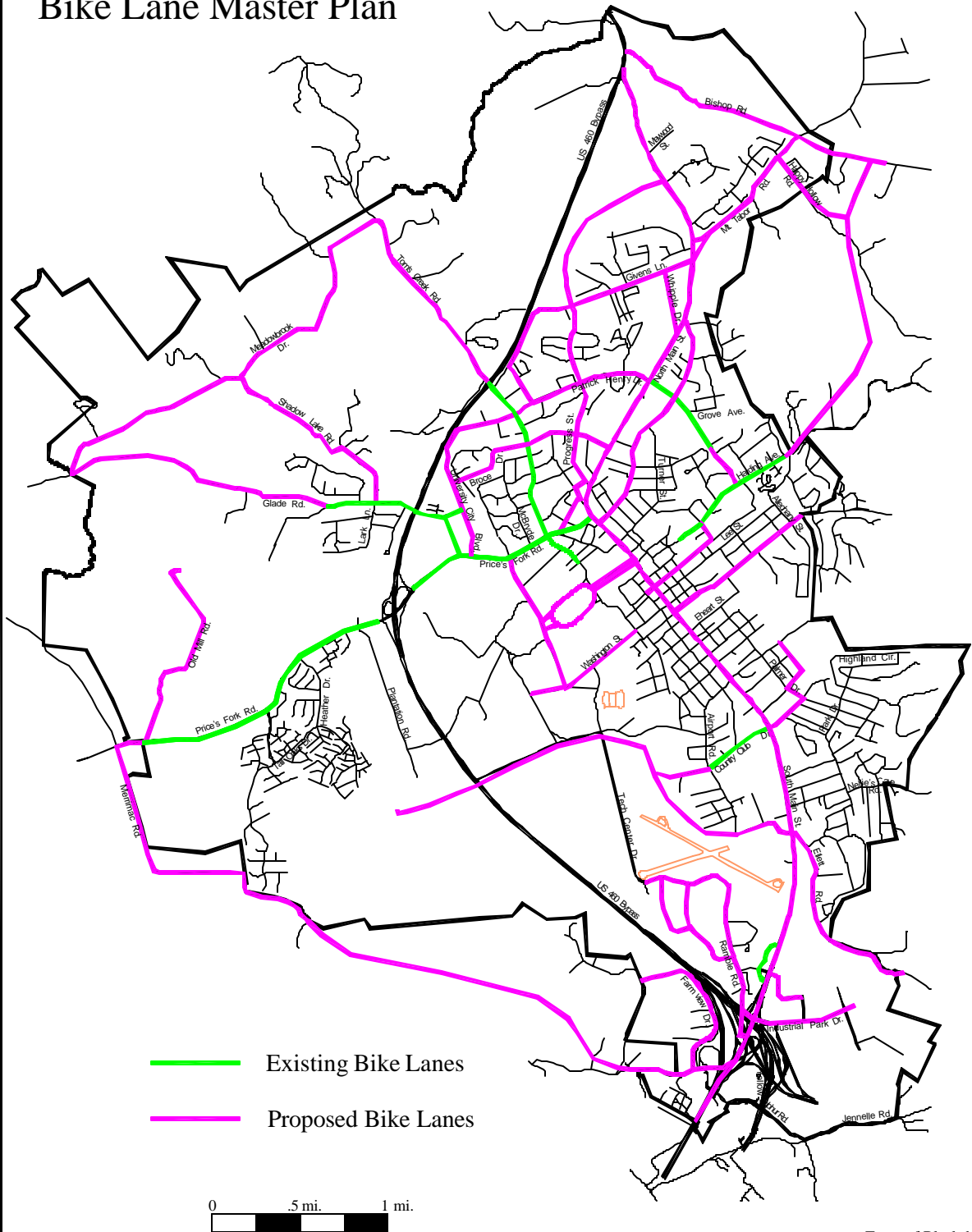
Figure T-26, Sidewalks

On-Road Bicycle Lane Priorities

Name	Location	Cost Estimate	Source	Target Construction Year
High Priorities				
Professional Park Drive	South Main Street to Prosperity Drive		State	2001-02
University City Blvd	Prices Fork Road to Tom's Creek Road	\$122,620	Local, ISTE A	2001-02
Hubbard/Southgate/Country Club	Lanes along all portions of the new VDOT road projects	\$174,720	local, state	2002-04
Clay Street	Main Street to Clay Street Terminus		Local	2001-02
Progress Street	Prices Fork Road. via Webb, Kabrich, Watson streets along Progress to North Main Street via Givens Lane	\$288,288	Local	To Be Determined
Bishop Road	Route 460 Bypass to Mount Tabor Road and North Main Street	\$366,912	Local	To Be Determined
Other Priorities				
Happy Hollow Road	Mount Tabor Road to Harding Ave.			
Patrick Henry Drive	High School to Harding Avenue			
Broce Drive	University City Boulevard to Main Street			
Tom's Creek Road	Route 460 to Meadowbrook Drive			
Meadowbrook Dr.	Glade Road to Tom's Creek Road			
Harding Avenue	From Corporate limits to Happy Hollow Road			
Industrial Park Rd.	Main Street to Town Limits			
Glade Road	Boxwood Drive to Meadowbrook Dr			
Mount Tabor Road	Main Street to Town Limits			
Ramble Road	Tech Center Drive to Yellow Sulphur Road			
High Top Road	End of South Main Street at Yellow Sulphur Road to Merrimac Road			
Whipple Drive	Main Street to Givens Lane			
Giles Road	Main Street to Main Street			
Merrimac Road	Prices Fork Road to High Top Road			
Main Street	Entire length where possible and where there is no parking			
Ellett Road	Main Street to Town Limits			
Country Club Drive	Extend from Main Street to Palmer Drive and along Palmer to the golf course via Graves Avenue			
Roanoke Street	Harding Avenue to Main Street			
Duck Pond Drive	Entire length			
Drill Field Drive	Entire length			
Washington Street	Duck Pond Drive to Kent Street			
West Campus Drive	Entire length			
Farmview Drive	Entire length			

Figure T-27, On-Road Bicycle Lane Priorities

Bike Lane Master Plan



- Existing Bike Lanes
- Proposed Bike Lanes

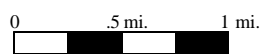


Figure T-28, Bike Lane Master Plan

PARKING

Description

Campus Parking Demand

Adequate parking facilities that are attractively constructed and conveniently located are a crucial element of Blacksburg's transportation system. Many people commute daily to the Virginia Tech campus. There are currently 4,405 Faculty/Staff parking spaces; 4,479 Commuter/Graduate parking spaces; and 3,096 Resident parking spaces on campus. During the 2000-01 academic year, the university issued 4,758 Faculty/Staff parking permits; 10,379 Commuter/Graduate parking permits; and 3,780 Resident parking permits. In 2000, commuting students pay a \$50 annual parking permit fee, and faculty/staff pay a \$65 annual permit parking fee for the right to park on campus, although this does not guarantee available space.⁶



Figure T-29, VT Commuter Lot

Neighborhoods that are adjacent to the university campus become a convenient and attractive location for commuter on-street parking and long-term parking for on-campus residents. A permit parking system is provided for in the Town Code to allow on-street parking to be available only to neighborhood residents and their guests in such areas.⁷

Downtown Parking

The downtown area is pedestrian in scale and consists of many small shops and restaurants along the tree-lined streets. There are a few parking lots and limited on-street parking. Most of the public parking spaces are metered to



Figure T-30, Downtown Parking—Draper Rd

encourage turnover and discourage use of the spaces by shop employees and/or students attending class, so that the spaces will be available for shoppers. The town has constructed two public parking

⁶ Virginia Tech Parking Services.

⁷ Blacksburg Town Code, Article IV, Division 3, Section 12-600.

lots in the downtown area since 1995. A recent downtown parking inventory revealed that there are currently 214 metered curbside spaces (plus six handicapped, six motorcycle, and 38 non-metered spaces) and 153 metered spaces in three public lots (plus 25 reserved, one motorcycle, and four handicapped spaces) within downtown for customer accessibility. Adequacy of parking in the downtown area is a long-standing community concern. The downtown area is adjacent to the Virginia Tech campus, and to the Squires Student Center. While this provides a supply of student customers for the downtown, this proximity also creates a demand on downtown parking by those attending activities at the Student Center. The provision of convenient parking is essential for downtown merchants to remain economically viable and competitive with mall shopping areas.

Blacksburg's Downtown Master Plan recognizes a deficiency in downtown parking and recommends that the town conduct a comprehensive parking strategy before it allocates large sums of money for major new parking resources. The parking management strategy should include an inventory of spaces, facilitation of parking summits, firm enforcement, updated parking signage, parking pamphlets, designated employee lots, and partnerships with private lot owners and parking management authorities or contractors.

These solutions will not solve the parking problem entirely, but should improve the situation while long-term plans are made for additional parking resources. Such long-term plans suggested in the Master Plan are two new potential parking resources. The first proposed facility is the Donaldson Brown Garage. This facility's proposed location is the current parking lot on the corner of Otey Street and College Avenue. A garage here could hold over 500 cars while providing additional perimeter retail space. The second proposal is the Progress Street Garage, with a possible site on the corner of Progress Street and Wilson Avenue. This structure could also provide additional retail space on its perimeter.⁸

⁸ Blacksburg Downtown Master Plan, p. 15.



Figure T-31, Proposed Sites for Additional Downtown Parking

Residential Parking

Several residential apartment complexes are also located adjacent to campus. In many cases, the number of parking spaces provided within the properties is less than the number of tenants, resulting in an overflow of parking onto adjacent streets. The Zoning Ordinance was amended in 1993, revised in 1998, and increased the number of spaces required for new apartment developments.



Figure T-32, Residential Parking

However, those constructed prior to 1993, continue to have a shortage of parking. The older residential neighborhoods adjacent to campus on the east side of Main Street consist of small homes with few driveways or off-street parking. In many cases these homes have been converted to rental properties and may house up to three unrelated individuals or a family plus two unrelated individuals, each with a car that must then be parked on the street. Some of the streets are narrow, limiting the number of on-street parking spaces available.

Opportunities

- ◆ The Blacksburg Transit system enables a reduction in the use of personal cars and in the resulting need for parking.
- ◆ The campus parking lots provide for overflow parking for the downtown after regular class and working hours.
- ◆ The permit parking system enables on-street parking in residential areas to be reserved for adjacent residents.
- ◆ Metered spaces in the downtown area encourage parking turnover and availability for customers.
- ◆ There are a large number of private parking lots throughout the downtown area which are currently unavailable for public use.(e.g., churches, Raines Real Estate, First Union, etc.).

Challenges

- ◆ Many Town residents have the perception that there is an inadequate amount of convenient parking spaces within close proximity to the downtown area.
- ◆ Apartment complex parking shortages result in overflow parking in inappropriate areas and constriction of local roads due to on-street parking.
- ◆ Campus parking demand, which exceeds supply, results in overflow parking in adjacent residential areas and the downtown commercial area, exacerbating the customer parking shortages.
- ◆ If downtown parking spaces were reserved for customers, a minimal amount of convenient parking would be available for merchants and employees.
- ◆ There is no unified management of the private parking resources that exist in the downtown area to maximize the use of these lots.

What is Changing

Parking Supply vs. Green Space

While a need for parking is perceived by the community, there are also strong sentiments against creating large paved lots in the downtown and historic areas. The town has a very expansive landscaping ordinance that mandates extensive planting within and around parking areas. In addition, in the downtown vicinity, the location of parking areas in rear yards, screened from view and unobtrusive to the urban streetscape, is a growing trend that is sensitive to this concern.

Parking vs. Alternate Modes of Transportation

There is community support for the mass transit system and an extensive bike-walkway network to enable access to commercial areas and the campus. These systems also reduce reliance on the automobile and the demand for parking. However, in the downtown area this must be balanced with the perception that if adequate parking is not available, the non-student portion of the population will not shop downtown. The type of establishments located downtown may then become less diverse and will continue to cater to the student population. The vitality of the downtown area lies in the perception of the community, which is closely linked to the provision of adequate and convenient parking.

Management of Private Parking Facilities

The numerous existing private parking lots in the downtown area could be more efficiently managed either through a unified policy or centralized management. A private company is encouraged to manage this valuable resource to the mutual benefit of lot owners, the town, and the patrons of downtown businesses. Spaces could be rented for a fee with the towing of violators strictly enforced. A percentage of proceeds could be returned to the property owners and management services would include the general maintenance of each lot (i.e., litter control). These services could eventually extend to all downtown parking facilities – public or private.

GENERAL POLICIES

- ❑ Improve the supply of public and private parking facilities in Town, and ensure that these facilities are visually pleasing and consistent with the character of the town by being unobtrusive, extensively landscaped, and appropriately lighted.
- ❑ Encourage the use of alternate modes of transportation to decrease the high demand for public and private parking in the downtown area.
- ❑ Ensure that residents of neighborhood streets have adequate parking adjacent to their homes.
- ❑ Require that parking for commercial and industrial development be adequate to serve employee and customer needs without excessive unused spaces.
- ❑ Encourage the provision of private, for-profit parking facilities and a parking management company to serve downtown commercial establishments.
- ❑ Encourage the upgrade of existing parking facilities to be consistent with the desired character of the area and with community design goals.

ACTION STRATEGIES

in general

- Expand and enforce permit parking in residential neighborhoods effected by adjacent parking shortages.
- Encourage shared use of large existing parking areas in downtown, such as church lots, to enhance parking supply.
- Encourage shared parking between adjacent businesses and/or adjacent owners as allowed for in the Zoning Ordinance.
- Enforce parking restrictions that already exist and new ones as they are developed in order to demonstrate a zero-tolerance of violations, particularly in the downtown area.

within 5 years

- Encourage Virginia Tech to provide structured parking facilities on the campus/Town fringe to support parking demand generated by uses such as the Squires Student Center, the Continuing Education Center, and the proposed Creative Arts Center.
- In conjunction with Virginia Tech and/or interested private companies, construct a multi-functional parking/retail facility near College Avenue to increase the total number of parking spaces downtown closer to the projected demand.
- Provide incentives for downtown employees and owners to reserve metered spaces for customers rather than employees.
- Comprehensively evaluate parking policies throughout Town where traditional problems have existed or where there may be the potential for problems in the future (e.g., the downtown area, residential areas adjacent to the high school, new commercial sites, etc.).
- Evaluate need and implementation strategies for the provision of handicapped parking spaces in the downtown area.
- Work with private parking lot owners and create a parking management authority / contractor as a creative solution to managing the finite number of parking spaces downtown and maximizing the utility of both public and private parking lots.

within 25 years

- Explore the development of shuttle or trolley service between commercial centers within Town to enable shared use of available parking.
- Explore the development of a shuttle service from outlying parking nodes into the downtown areas.
- Provide incentives for improvements to existing parking lots consistent with aesthetic concerns and the character of the area.
- Provide additional parking spaces in and around the downtown as recommended by the Downtown Master Plan.
- Explore the application of a special tax district to help fund development of parking facilities in the downtown area.

beyond 25 years

- Provide parking facilities for alternative vehicles as technology develops.

AIR TRANSPORTATION

Description

Virginia Tech / Montgomery Executive Airport

The airport, located on the Virginia Tech campus, is a public general aviation airport situated in the southern portion of Town near the Route 460/Smart Road interchange. It currently houses approximately 35 aircraft on site, and serves 39,000 flights annually. The airport sits on 280 acres and uses a non-precision localizer approach. A primary runway of 4,550 feet in length accommodates corporate and private jets. This places the runway in an Airport Reference Code, C-II classification. The runway is also lighted for night flight operations and is complemented by instrument approach facilities. A parallel taxiway is currently provided as well as a newly constructed terminal building, parking area, hangar space, and apron area.



Figure T-33, VT Airport

Airport Safety Zones

The Code of Virginia, Section 15.2-2294, states that every locality with a licensed airport shall provide for the regulation of the height of structures and natural growth for the purpose of protecting the safety of air navigation and the public investment in air navigation facilities. The ordinance may be designed and adopted by the locality as an overlay zone superimposed on any preexisting base zone. Blacksburg's airport safety zones for the Virginia Tech / Montgomery Executive Airport are shown in *Figure T-34*.

Airport Services

The flight school is accredited by the Federal Aviation Administration (FAA) and serves the general public as well as Virginia Tech. The school operates three aircraft with approximately 50 students and five instructors. The university provides some revenue to the airport for expenses and operating costs, and for debt service retirement. There have been small charter plane and limited commercial commuter services offered at the airport over the last several years, although none is currently operating.

Airport Safety Zones

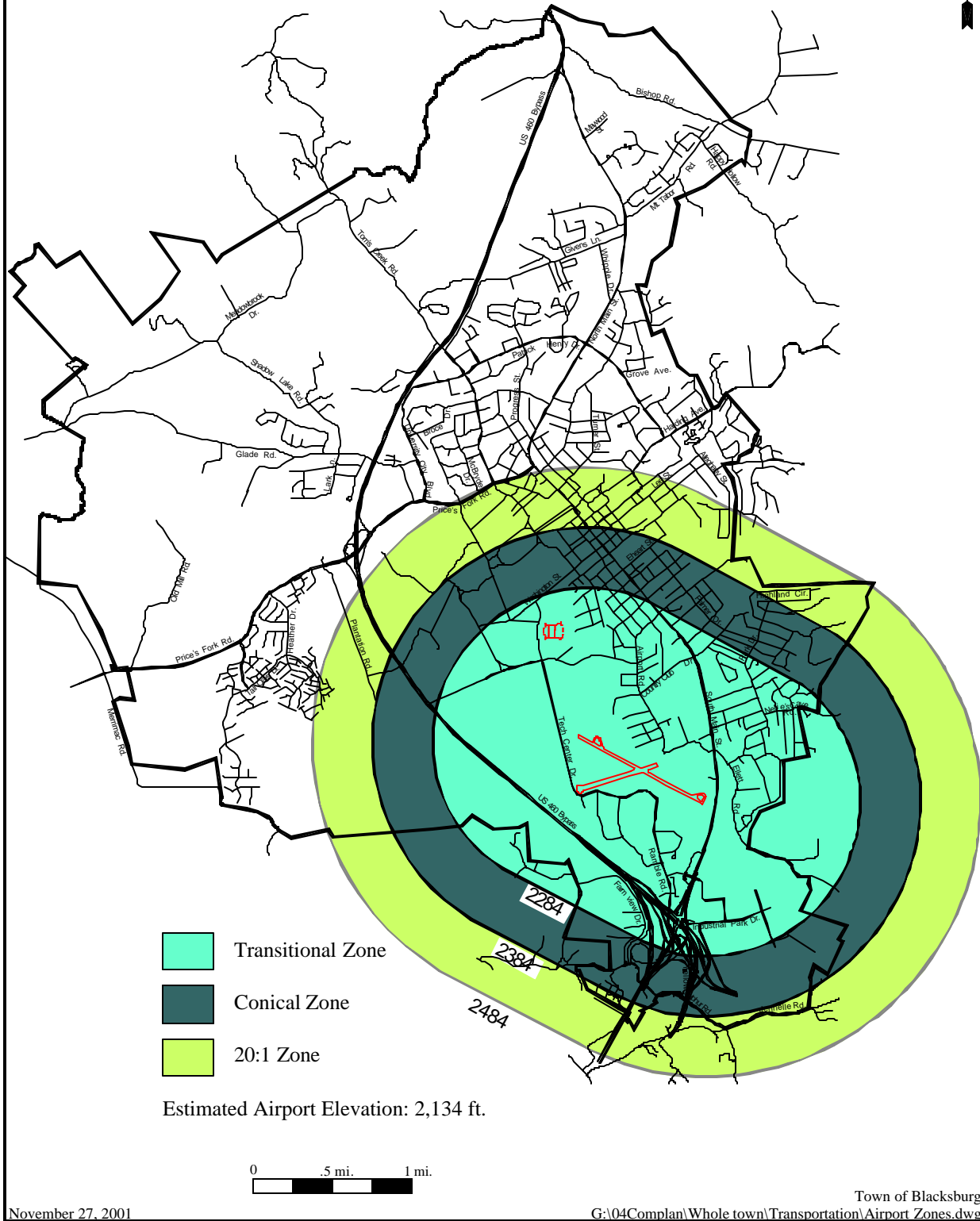


Figure T-34, Airport Safety Zones

Regional Airports

Regular passenger air service is provided regionally by the Roanoke Regional Airport, located approximately 40 miles northeast of Town. The Roanoke Airport serves approximately 50 flights daily on two runways, one 5,800 feet long and one 6,800 feet long. Passenger service is available on five airlines.

The New River Valley Airport, located nearby in Dublin, has a long-range strategic plan to become a global air cargo facility. It currently serves up to 20 private and freight flights daily with a 6,200-foot long runway.

Opportunities

- ◆ The Virginia Tech / Montgomery Executive Airport is a general aviation airport that is open to the public 24 hours a day and used for corporate and private air traffic.
- ◆ The airport has the capability to serve additional executive and private transportation needs benefiting the community.
- ◆ The New River Valley airport serves the material supply and delivery needs of the town's industries.

Challenges

- ◆ Improvements and expansions to the airport and its use may jeopardize the appearance, safety, and character of the town, particularly the adjacent residential neighborhoods.
- ◆ Alleviate congestion along the Route 460 Bypass between Blacksburg and Christiansburg, the primary route from Blacksburg to the Roanoke Regional Airport, which is often subject to delays at peak hours.
- ◆ No private air charter service operates between Blacksburg and Roanoke.

What is Changing

Future Airport Construction

The Virginia Tech Airport master plan indicates construction of additional T-hangars, tie-downs, and improved fueling facilities. The airport will continue to be used primarily for private aircraft and may be a site for low hazard air shows and fly-ins. The airport location will remain a significant amenity for corporate air transportation serving the industries located in the Blacksburg Industrial Park and the Corporate Research Center.

The Virginia Tech Airport master plan also indicates construction of a runway extension to 5,500 feet. This extension would necessitate the relocation of Tech Center Drive, is not a funding priority, and would not provide for general passenger service, however it would improve safety and convenience for users.

Creation of an Airport Authority

Blacksburg, Christiansburg, Montgomery County, and Virginia Tech collaborated to form a regional airport authority in 2001 to operate, under a long-term lease, the existing facilities at the Virginia Tech Airport. The regional airport will provide corporate/executive/local community service for the area, with the Roanoke Regional Airport continuing to provide commercial passenger service, and the New River Valley Airport providing freight service. The university is committed to regional participation with localities.

GENERAL POLICIES

- ❑ Enhance the airport in partnership with Virginia Tech, Montgomery County, and Christiansburg to better serve the town and region's businesses and citizens.
- ❑ Prevent incompatible land uses from encroaching on the airport and its safety zones in order to avoid future hazards or nuisances to aircraft and the town's citizens.
- ❑ Promote use of the airport for special activities and as a tourist attraction for the town.
- ❑ Support the upgrade of the New River Valley airport for global air cargo transportation to serve the region and the town's industries and business community.
- ❑ Encourage the upgrade and promotion of the Roanoke Regional Airport for large capacity commercial passenger flights, with nonstop jet service to strategic cities, to support regional job growth and economic development.



Figure T-35, Virginia Tech Airport Master Plan

ACTION STRATEGIES

in general

- Enforce airport safety zone restrictions through the zoning ordinance to prevent hazards or obstructions to planned air space and Town citizens.
- Provide corporate/executive service for the New River Valley to support regional economic development activities associated with business, industry, and university related research and development.
- Encourage public use of the airport terminal for meetings, informational gatherings, and special events.

within 5 years

- Participate in the Virginia Tech / Montgomery Regional Airport Authority to operate the airport facilities at the university.
- Enhance the airport's revenue stream by promoting hangar rentals, the flight instruction school, aircraft and fuel sales, aircraft maintenance, and general marketing.

within 25 years

- Encourage low hazard airport attractions to increase tourism in Town and enable the town to be a frequent stop for small plane travel.
- Study the demand and constraints of providing increased service through the airport, such as for commuter, small charter, and corporate flights.

beyond 25 years

- Plan airport improvements, as technology is available, to ensure that the airport is safe and convenient for use.